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A revised taxonomy for the Lizard Families Gerrhosauridae and Cordylidae.

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ABSTRACT

This paper revises the taxonomy of the two closely related lizard families Gerrhosauridae Fitzinger, 1843 and Cordylidae Mertens, 1937. This revision is as a result of an assessment of previously published material combined with in situ observations of relevant taxa in the African region and a number of preserved specimens of most previously described species-level taxa within the group. In order to make the classification consistent within both groups and as compared to other squamate families, a number of new tribes, genera and the like are erected in accordance with the Zoological Code (Ride *et al.* 1999).

Gerrhosaurus Wiegmann, 1828 is split three ways, with two new genera named for the first time. The remaining species in *Gerrhosaurus* are split between three subgenera, for which there are already available names, all used herein. Genera within the subfamily Gerrhosaurinae Lang, 1991 are in turn grouped within three newly defined and named tribes, one being split into two subtribes.

At the genus level, Zonosaurinae Lang, 1991 is divided as follows: *Tracheloptychus* Peters, 1854 as widely recognized is retained unchanged. *Zonosaurus* Boulenger, 1887 as widely recognized to date is split into four genera, with three formally named for the first time. In turn, each of the newly created genera are divided into 2, 2 and 4 subgenera respectively.

Also within the Zonosaurinae a tribe and two subtribes are formally defined.

Within the Cordylidae, there are also rearrangements building on the taxonomic arrangement proposed by Stanley *et al.* 2011. Within Cordylinae Mertens, 1937, *Pseudocordylus langi* Loveridge, 1944 is placed in a newly named monotypic genus; *Smaug* Stanley *et al.*, 2011 is divided two ways, with a new genus named for the first time and only the nominate species *Smaug giganteus* (Smith, 1844) remaining within *Smaug*; *Namazonurus* Stanley *et al.,* 2011 is divided into three newly defined subgenera, two formally named for the first time. *Cordylus* Laurenti, 1768 is also divided into two subgenera. Cordylinae is herein divided into four tribes, three formally named and defined for the first time.

The 19 currently recognized species of *Platysaurus* Smith, 1844 are divided into four genera, with three genera named for the first time. One of these is divided into two subgenera and another into three. The subfamily Platysaurinae Stanley *et. al.* 2011 is split into three tribes.

Keywords: Taxonomy; nomenclature; Gerrhosauridae; Cordylidae; Gerrhosaurinae; Zonosaurinae; Platysaurinae; Cordylinae; Cordylini; *Cordylosaurus*; *Tetradactylus*; *Gerrhosaurus*; *Tracheloptychus*; *Zonosaurus*; *Ouroborus*; *Karusasaurus*; *Namazonurus*; *Smaug*; *Chamaesaura*; *Pseudocordylus*; *Ninurta*; *Hemicordylus*; *Cordylus*; *Platysaurus*; new tribes; Funkisaurusiini; Tetradactylusiini; Gerrhosaurusiini; Zonosaurini; Cottonsaurini; Namazonurini; Karusasaurini; Platysaurini; Woolfsaurini; Bennettsaurini; new subtribes; Gerrhosaurusiina; Swilesaurusiina; Zonosaurina; Tracheloptychina; new genera; *Swilesaurus*; *Funkisaurus*; *Wellssaurus*; *Hawkeswoodsaurus*; *Wellingtonsaurus*; *Cottonsaurus*; *Ninsaurus*; *Woolfsaurus*; *Bennettsaurus*; *Edwardssaurus*; new subgenera; *Pleurotuchus*; *Angolosaurus*; *Tetradactylus*; *Paratetradactylus*; *Lukefabasaurus*; *Raselimananasaurus*; *Raxworthysaurus*; *Nussbaumsaurus*; *Hallabysaurus*; *Slatterysaurus*; *Atikaea*; *Lucysaurea*; *Vrljicsaurus*; *Macgoldrichsaurus*; *Hulimkasaurus*.

INTRODUCTION

In 2009 while doing extensive fieldwork in Southern Africa, it became apparent that the genus *Cordylus* as widely recognized in its widest form was paraphyletic at the genus level and in urgent need of a reclassification. To that end, an investigation into the genus as widely defined at the time, led to an even wider revision of the entire Cordylidae of southern and eastern Africa and the associated Gerrhosauridae of southern Africa and Madagascar.

As a result of criminal charges improperly laid against myself in 2010, by corrupt Australian government officials, Ron Waters, Glenn Sharp and Sharon Webb (for the details of corruption in the relevant department refer to Hoser 1993, 1996 and 2010), the charges being laid as reprisal and revenge for the publication of Hoser (2010), which disclosed new and ongoing corruption within the Victorian (Australian) Government, the reclassification of the Cordylidae and Gerrhosauridae was unexpectedly delayed.

Numerous earlier studies that had been published, had already done considerable groundwork in terms of identifying species groups within the two families that should be placed in their own genera. However most of these authors did not assign new generic names to the obviously improperly grouped species (e.g. Frost *et. al.* 2001).

This material did in the main part form the basis of the reclassification I was about to publish.

However, seizing on this same body of work and a newly produced molecular phylogeny for the Cordylidae, Stanley *et al.* did in 2011 reclassify the Cordylidae. The authors resurrected a number of genera and for the first time named five new ones.

All the groups newly named by these authors had in fact been identified as unnamed genera by myself in 2009 and would have been named by myself the following year in 2010, had it not been for the unexpected legal matters that diverted my attention later that year.

Notwithstanding this, the rules of the ICZN and the Zoological Code (Ride *et al.* 1999), are clear in that the three most important rules that underpin zoological nomenclature are:
1/ Homonymy (Principal 5, Article 52 and elsewhere),
2/ Priority (Principal 3, Article 23 and elsewhere),
3/ Stability (Principal 4, Articles 23, 65 and elsewhere),
as well as the ethics of the Code in Appendix A.

Therefore contrary to the radical and destructive position outlined by Kaiser *et al.* (2013), more accurately known as Wüster *et al.* (2013), as explained by Hoser (2013), I do not seek to break the established rules of zoological nomenclature and rename the five genera named by Stanley *et al.* here, even though they may have breached the ethics of the code in naming genus groups in the knowledge another herpetologist was seeking to do so.

Those and all relevant and available names from earlier dates are properly used herein and in accordance with the Zoological Code (Ride *et al.* 1999).

It is also relevant that the Code also states that one should publish taxonomic acts expediently and preferably within 12 months of announcing an intention to do so.
While in 2009, I made it clear to herpetologists globally that I intended reclassifying all the Gerrhosauridae and Cordylidae, the code does not give myself or anyone else a right to monopolize taxa indefinitely, regardless of events and circumstance. Therefore it was entirely allowable that Stanley *et al.* should publish their major reclassification in 2011, which was more than a year after I had announced an intention to reclassify the group, although noting that at least some of the authors were aware of the improper legal proceedings running against me as the basis for my own delay, they should not have rushed in to scoop naming rights for the relevant genera.

I also note that one of the authors of Stanley *et al.* is none other than William (Bill) Branch has a well-documented contempt for the rules of Zoological Nomenclature. This is best seen in his written endorsement of the reckless hate document Kaiser *et al.* (2013), (better known as Wüster *et al.* 2013), which openly calls for a total abandonment of the established rules of Zoological Nomenclature and the Zoological Code itself (see page 20 of that document), to enable their group known as the Wüster gang to assign patronyms in honour of their friends for taxa that are already properly named.

In spite of the preceding and noting the code-compliant (in terms of the rules, if not the ethics) substantial and generally appropriate reclassification of the Cordylidae by Stanley *et al.* (2011) on taxonomic grounds, it is clear that on the basis of the evidence provided by themselves as well as that provided by earlier authors, that there are taxa within the Cordylidae that should be assigned to other, as yet unnamed genera. This is if one were to use criteria similarly applied across other lizard species groups, or for that matter, vertebrates in general.

19 recognized species of *Platysaurus* (currently the entirety of the family Platysaurinae) as currently recognized are divided herein into four genera, with three genera named for the first time. One of these is divided into two subgenera and another into three. The subfamily Platysaurinae is split into three tribes. It should be made clear that the actual total of species within the Platysaurinae is in fact well in excess of 20 as most widely recognized at the present time, regardless of the generic and subgeneric arrangement used by herpetologists.

A similar situation also exists for the somewhat less speciose Gerrhosauridae, with the nominate genus *Gerrhosaurus* in obvious need of further division. One species in particular, *G. major* is so widely divergent from the rest of the genus that it should be placed in both a separate tribe and genus as is done herein!

In terms of the Zonosaurinae as recognized to date, Recknagel *et al.* 2013 recognized just two genera, namely *Tracheloptychus* Peters, 1854 (containing just two species) and the speciose *Zonosaurus* Boulenger, 1887, (containing 17 species recognized as of 2013, noting herein that some of these are clearly composite) as did Pyron *et al.* (2013) in their phylogeny. Notwithstanding this, Recknagel *et al.* 2013 stated:
"The monophyly of *Zonosaurus* relative to *Tracheloptychus* remains ambiguous, but we identify several highly supported main clades within the genus *Zonosaurus*."

On the basis of the molecular evidence provided by both Recknagel *et al.* 2013 and that published by Pyron *et al.* (2013), it is clear that *Zonosaurus* as presently recognized is paraphyletic at the genus level. On the basis of both the molecular evidence and the morphological evidence, *Zonosaurus* is divided into a number of well-defined genera, all new genera being formally named according to the Zoological Code for the first time.

Two divergent species taxa *Cicigna madagascariensis* Gray, 1831 and *Zonosaurus haraldmeieri* Brygoo and Böhme, 1985, which clearly form a natural grouping are the only species that remain within *Zonosaurus*.

All readers should note that in his original description of the genus *Zonosaurus*, Boulenger (1887) at page 127 did not specify a type species for the genus and as far as I can ascertain, no author has done so since.

Therefore and in accordance with the relevant sections of the current Zoological Code (Ride *et al.* 1999), namely articles 69 and 69A and the relevant parts therein, I hereby designate the species *Cicigna madagascariensis* Gray, 1831 as the type species for the genus *Zonosaurus* Boulenger, 1887. It should be noted that this species taxon was the first of three that Boulenger listed in his descriptions of the three species within this newly created genus.

The remainder of *Zonosaurus* is herein further divided into several well-defined genera and subgenera, on the basis that obvious morphological differences between well-recognized

species groups that does in fact match the published molecular data for the same species.

MATERIALS AND METHODS

In essence, I have drawn upon all relevant previously published literature on the two lizard families, as well as cross matching the results of earlier authors with my own observations of species in the wild state and captive specimens.

While there has been considerable emphasis on molecular results by taxonomists in recent years as seen for example in the publication of Stanley *et al.* (2011), it is important that before taxonomic decisions are taken, that these results should be accurately cross-checked against the animals themselves and include both morphological and behavioural data, if and when available.

If a conflict arises between any of these then a conservative position of no change to the existing taxonomy should be taken.

In terms of the lizard families Gerrhosauridae and Cordylidae such data, which matches across all relevant disciplines is widely available and was able to be checked myself against specimens of many species across several nominate genera. Due to the relatively large size of most species of Gerrhosauridae and Cordylidae, combined with their abundance both in the wild and captivity, access to specimens for study purposes was not problematic.

Below I present a diagnosis and dissection of each of the relevant families, formally describing new and unnamed groups as required according to the Zoological Code. Where it is appropriate to rely on earlier published material, this is not necessarily rehashed herein. This is especially in terms of when the relevant material is widely available to readers on the world-wide web (internet).

Key published literature relevant to the taxonomy of the Gerrhosauridae includes Adolphs (2006), Andersson (1916), Andreone and Randriamahazo (1997), Auerbach (1987), Baard (1987), Baillie *et. al.* (2010), Barbour (1918), Barts (2008), Bates (1993, 1996, 2011), Bauer *et al.* (1993, 1994), Berger-Dell'mour (1983, 1985), Blanc (1967, Bocage (1866), Boettger (1883), Bonetti (2002), Boulenger (1887, 1896, 1908), Boycott (1992), Branch (1990, 1993, 1998), Branch and Bauer (2005), Branch and Branch (1992), Branch *et al.* (1992), Broadley (1960, 1962b, 1971b, 1973, 1987, 1991), Broadley and Cotterill (2004), Broadley and Howell (1991), Broadley and Rasmussen (1995), Brygoo (1985a, 1985b), Brygoo and Böhme (1985), Burger (1988), Burger *et al.* (2004), Chirio and Ineich (1996), Chirio and Lebreton (2007), Conradie *et al.* (2011), Daan and Hillenius (1996), Dassow (2008), Dathe (1987), Daudin (1802), D'Cruze *et al.* (2009), del Prato (1895), Duméril and Bibron (1839), Duméril and Duméril (1851), Fitzsimons (1938, 1939, 1947, 1953), Glaw and Vences (1994), Grandidier (1869), Gravenhorst (1851), Gray (1838, 1864), Grys (1938), Haagner and Branch (1992), Haagner *et al.* (2000), Hallermann (1998), Hallowell (1857), Harbig (2003), Hellmich and Schmelcher (1956), Hewitt (1915, 1926), Hewitt and Methuen (1913), Ineich (1999), Jacobsen *et al.* (2010), John (1980), Kirk (1865), Kober (1990), Köhler (1990), Lang (1991b), Lang and Böhme (1989), Lanza (1990), Lamb and Bauer (2013), Lamb *et al.* (2003), Largen and Spawls (2006, 2010), Laurent (1950, 1954), Leaché *et al.* (2006), Lilge (2008), Linnaeus (1758), Loveridge (1920, 1923, 1936, 1942), Mason and Alexander (1996), Meek and Cory (1910), Meier (1988), Mertens (1938, 1967), Mitchell and Steyn (1965), Mitchell *et al.* (1987), Mocquard (1895), Nance (2007), Neumann (1905), Parker (1942), Pauwels and David (2008), Pauwels and Vande weghe (2008), Peters (1854), Pfeffer (1889, 1893), Pietruszka (1987, 1988), Popp (1958), Pyron *et al.* (2013), Raselimanana *et al.* (2000, 2009), Raxworthy and Nussbaum (1994), Recknagel *et al.* (2013), Rensburg *et al.* (2009), Rese (1986), Roux (1907), Salvidio *et. al.* (2004), Schmidt (2008), Schmidt (1919), Schmidt and Liebel (1997), Schwier (2007), Scortecci (1930, 1934), Smith (1837, 1849), Spawls and Rotich (1997), Spawls *et al.* (2001), Sternfeld (1917), Steyn (1963), Switak (1979), Tomsett (1990), Trapé *et al.* (2012), Ulber (1999), Ullenbruch *et al.* (2010), Van Beest (2004), Vences *et al.* (1999), Wagner (2010), Wagner *et al.* (2012), Werner (1906), Whiting *et al.* (2003), Wiegmann (1828) and sources cited therein.

Key published literature relevant to the taxonomy of the Cordylidae includes Abraham (1981), Adolphs (2006), Adolphs and Tröger (1987), Alexander and Marias (2007), Angel (1922, 1942), Armstrong (2011), Bates (2005, 2007), Bates and Whittinton-Jones (2009), Bauer and Branch (2003), Bauer *et al.* (1995), Berger (1978), Berghof (2006, 2007, 2011), Blackburn (1993), Bobe (2006), Bocage (1895), Boie (1828), Bonetti (2002), Boulenger (1885, 1890, 1895, 1899, 1908), Branch (1981, 1988a, 1988b, 1993, 1998), Branch and Branch (1992), Branch and Haagner (1992), Branch and Whiting (1997), Branch *et al.* (1992, 2005a, 2005b), Broadley (1959, 1962a, 1962b, 1964a, 1964b, 1965a, 1965b, 1971a, 1971b, 1976, 1978, 1981, 1995, 2006), Broadley and Branch (2002), Broadley and Cotterill (2004), Broadley and Howell (1991), Burgess *et al.* (2004), Cooper Jr (2005), Cooper Jr and Whiting (2003), Cope (1862), Costandius and Mouton (2006), Curtin *et al.* (2005), Cuvier (1829), Dam (1921), Daniels *et al.* (2004), Dathe (1988), De Waal (1978), Duméril and Bibron (1839), Du Toit *et al.* (2002), Eifler *et al.* (2007), Elzen (1980, 1982), Fitzinger (1843), FitzSimons (1930, 1933, 1937, 1941, 1943, 1948, 1958, 1965), Frost *et al.* (2001), Glaw and Vences (1994), Grandidier (1869), Gray (1831, 1845), Greeff and Whiting (1999, 2000), Greenbaum *et al.* (2012), Groenewald (1992), Gruschwitz and Schmidt (2001), Günther (1880, 1895), Haagner *et al.* (2000), Heath *et al.* (2008), Herselman (1991), Herselman *et al.* (1992a, 1992b), Hewitt (1909, 1927, 1932), Hewitt and Methuen (1913), Hipsley *et al.* (2009), Jacobsen (1989, 1994, 1995), Jacobsen and Newbery (1989), Jacobsen *et al.* (1989), Janse van Rensburg (2009), Janse van Rensburg *et al.* (2009), Jes (1967), Kahl *et al.* (1980), Kappelman *et al.* (2003), Kirchhof *et al.* (2010), Koch-Isenburg (1977), Krabbe-Paulduro and Paulduro (1989), Lambiris (1987), Lang (1991a), Langerwerf (1996, 2001, 2005), Laurent (1964), Laurenti (1768), Lewis *et al.* (2009), Linnaeus (1758), Loehr and Zwartepoorte (1995), Loveridge (1944, 1953), Marais (1984), Matschie (1891), Matz (1974, 1975, 1985), McConnachie and Whiting (2003), McConnachie *et al.* (2010), McLachlan (1986), Meier (1988), Menegon et al. (2006), Mertens (1937), Methuen and Hewitt (1914), Moon (2001), Mouton and Le Fras (2011), Mouton *et al.* (1993, 1994, 1995, 1997, 1999, 2002, 2010, 2012), Niekisch (1981), Odierna *et al.* (2002), Olmo and Odierna (1980), Parker (1936), Parusnath (2011), Parusnath and Nielsen (2011), Peers (1930), Peters (1854, 1862, 1879), Popp (1931, 1949), Pyron *et al.* (2013), Raselimanana *et al.* (2006, 2009), Recknagel *et al.* (2013), Schmidt and Liebel (1997), Schmidt (1919, 1924, 1930), Schwier (2007a, 2007b, 2007c), Scott *et al.* (2004), Senfft (1931), Shaw and Nodder (1811), Smith (1838, 1844, 1848), Spawls and Rotich (1997), Spawls *et al.* (2001), Stanley (2009), Stanley *et al.* (2011), Stejneger (1936), Switak (1981, 1987, 1995a, 1995b), Toit *et al.* (2003), Tolley *et al.* (2004), van Dam (1921), Van Beest (2004), Van Wyk (1994, 1995), Van Wyk and Swarts (2002), Van Wyk *et al.* (1998), Visagie *et al.* (2002), Visser (1971, 1984), Waal (1978), Welzel (1981), Whiting (1999, 2002), Whiting and Bateman (1999), Whiting and Greeff (1997, 1999), Whiting *et al.* (2003), and sources cited therein.

Following is a synopsis of the two families as defined herein, including as needed new diagnoses and definitions of taxon groups in accordance with the Zoological Code (Ride *et al.* 1999). In order to maintain relevance, material from earlier and readily available papers is not rehashed or referred to herein, beyond what is necessary to maintain proper context.

In the account below, the Gerrhosauridae is dealt with first, before the Cordylidae.

As an instruction to first or subsequent revisors of this work, no names proposed herein should have their spelling changed or altered in any way unless this is a mandatory requirement under

the existing in force Zoological Code, as published by the ICZN. If emendation of names is in the normal course of events optional only, then the original spelling herein should be used.

FAMILY GERRHOSAURIDAE, FITZINGER, 1843.

Type genus: *Gerrhosaurus* Wiegmann, 1828.

Diagnosis: Build may be robust, moderate, or vermiform; head covered with symmetrical shields; eyes present; eyelids well developed; tympanum distinct; dentition pleurodont, teeth closely set, hollow at the base, with long cylindrical shafts and conical or bicuspid crowns, pterygoid teeth often present; tongue moderate, elongate, arrow-headed, bifid posteriorly, covered with imbricate scale-like papillae or oblique plicae converging towards the median line; body with squarish or rhomboidal imbricate scales, forming regular longitudinal and transverse series (in African but not in all Malagasy species); a lateral fold covered with granular scales (except in the Malagasy genus *Tracheloptychus*); limbs well developed or rudimentary or absent posteriorly; femoral pores present or absent (in some serpentiform species); tail long and fragile.

Skull similar to that of the Lacertidae in every respect, with dermal ossification roofing over the supra temporal fossae; body furnished with osteodermal plates underlying the scales and showing a system of longitudinal tubules intersecting a transverse one as in the Scincidae, this structure being usually more distinct on the ventral plates than on the thicker and rougher dorsal ones; clavicle dilated and loop-shaped proximally; interclavicle cruciform, (adopted from Loveridge 1943, in turn adopted from Boulenger 1887 as cited by Loveridge).

Distribution: Africa and Madagascar.

Content: Subfamilies: Gerrhosaurinae; Zonosaurinae.

SUBFAMILY GERRHOSAURINAE LANG, 1991.

Diagnosis: Ventral plates forming a perfectly straight transverse series. Otherwise as for the family Gerrhosauridae, (adapted from Loveridge 1943).

Distribution: Africa.

Content: (Genera): *Gerrhosaurus* Wiegmann, 1828 (type genus); *Cordylosaurus* Gray, 1865; *Funkisaurus gen. nov.*; *Swilesaurus gen. nov.*; *Tetradactylus* Merrem, 1820.

GENUS *GERRHOSAURUS* WIEGMAN, 1828.

Type species: *Gerrhosaurus flavigularis* Wiegmann, 1828.

Diagnosis: Tongue covered with imbricate scale-like papillae; nostril pierced between 2 nasals and first labial; prefrontals and frontoparietal present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; limbs well developed; subdigital scales smooth or tubercular; femoral pores present, (adapted from Loveridge 1943).

Distribution: Africa, except the far north.

Content: *Gerrhosaurus flavigularis* Wiegmann, 1828 (type species); *G. bulsi* Laurent, 1954; *G. multilineatus* Bocage, 1866; *G. nigrolineatus* Hallowell, 1857; *G. skoogi* Andersson, 1916; *G. typicus* (Smith, 1837).

SUBGENUS *PLEUROTUCHUS* SMITH, 1837.

Type species: *Pleurotuchus typicus* Smith, 1837.

Diagnosis: Head small, its length being included in the distance from snout to anus 5 to 5.2 (adult) times; head shields smooth; rostral in contact with, or narrowly separated from, the frontonasal; prefrontals

slightly separated or barely in contact; supraoculars 4; supraciliaries 5; tympanic shield broad, crescentic; body cyclotetragonal or slightly depressed; dorsals strongly keeled, not striated, in 22-24 longitudinal and 56-58 transverse rows; laterals smooth; ventrals in 10 longitudinal and 30-35 transverse rows from pectoral to anal shields; femoral pores 15-17 on each side; fourth toe with 16-18 lamellae below; tail about 1.25 to 2 times the length of head and body.

Coloration: Above, head, back, and tail deep olive brown; a broad, light yellow, dorsolateral line, dark-edged above, from head to tail anteriorly; flank dark brown with a double series of dark-edged, white (yellow) spots; a similar, but less distinct, series on the tail. Below, creamy white (yellowish); underside of limbs and distal half of tail carrot-red in adult males. Eyes orange brown.

Tongue covered with imbricate scale-like papillae; nostril pierced between 2 nasals and first labial; prefrontals and frontoparietal present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; limbs well developed; subdigital scales smooth or tubercular; femoral pores present, (adapted from Loveridge 1943).

Comment: Molecular analysis has placed the species *typicus* (Smith, 1837), monotypic for the subgenus apart from others within the genus *Gerrhosaurus* and due to its obvious morphological differences, an argument has been raised to place it in a monotypic genus. However I have taken a conservative position and placed it in a subgenus, using the available name *Pleurotuchus* Smith, 1837.

Distribution: North-west Republic of South Africa.

Content: *Gerrhosaurus* (*Pleurotuchus*) *typicus* (Smith, 1837) (monotypic for the subgenus).

SUBGENUS *ANGOLOSAURUS* FITZIMONS, 1953.

Type species: *Gerrhosaurus skoogi* Andersson, 1916.

Diagnosis: Head depressed, its length from back of parietal only being included in the distance from snout to anus 5.6 times; head shields smooth; rostral large, with sharp cutting edge, in contact with the frontonasal; prefrontals shortly in contact; supraoculars 4; supraciliaries 5; tympanic shield large, trapezoid; body almost cylindrical (obviously bloated); dorsals smooth anteriorly, feebly tricarinate and serrate posteriorly, in 35 longitudinal and 64 transverse rows; ventrals in 18-22 longitudinal rows; femoral pores 24-27 on each side; tail slightly shorter than the length of head and body.

Coloration: Above, head dusky; body grayish brown; margin of upper jaw, sides of neck, and forelimbs anteriorly, jet black; fore feet light to white. Below, throat, breast and belly anteriorly black; middle and posterior portion of belly and underside of thighs, dusky.

Tongue covered with imbricate scale-like papillae; nostril pierced between 2 nasals and first labial; prefrontals and frontoparietal present; lower eyelid scaly; dorsal and ventral scales forming straight

longitudinal and transverse series; a strong lateral fold; limbs well developed; subdigital scales smooth or tubercular; femoral pores present, (adapted from Loveridge 1943).

Distribution: Angola and south-west Africa (Namibia).

Content: *Gerrhosaurus* (*Angolosaurus*) *skoogi* Andersson, 1916 (monotypic for the subgenus).

SUBGENUS *GERRHOSAURUS* WIEGMAN, 1828.

Type species: *Gerrhosaurus flavigularis* Wiegmann, 1828.

Diagnosis: By exclusion of the two subgenera defined above (being: *Pleurotuchus* Smith, 1837 and *Angolosaurus* Fitzimons, 1953).

Additionally defined by the following suite of characters: Tongue covered with imbricate scale-like papillae; nostril pierced between 2 nasals and first labial; prefrontals and frontoparietal present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; limbs well developed; subdigital scales smooth or tubercular; femoral pores present, (adapted from Loveridge 1943).

Distribution: Africa, except the far north.

Content: *Gerrhosaurus* (*Gerrhosaurus*) *flavigularis* Wiegmann, 1828 (type species); *G.* (*Gerrhosaurus*) *bulsi* Laurent, 1954; *G.* (*Gerrhosaurus*) *multilineatus* Bocage, 1866; *G.* (*Gerrhosaurus*) *nigrolineatus* Hallowell, 1857.

GENUS *SWILESAURUS GEN. NOV.*

Type species: *Gerrhosaurus validus* Smith, 1849.

Diagnosis: Separated from the genus *Gerrhosaurus* defined above by the following suite of characters: Head moderate, its length being included in the distance from snout to anus 4 (young) to 4.9 (adult) times; head shields smooth (young), feebly striated (halfgrown), or rugose (adult); rostral

separated from, very rarely in contact with, the frontonasal; prefrontals broadly in contact; supraoculars 4; supraciliaries 5; subocular excluded from lip by labial; tympanic shield narrow and bandlike (young) or broad and subtriangular (adult); body cyclotetragonal or depressed; dorsals keeled, unicarinate (young), tricarinate (halfgrown), or multicarinate (adult), and serrated, in 28-34 longitudinal and 50-56 transverse rows; laterals keeled and sometimes striated also; ventrals in 14-20 longitudinal and 40-44 transverse rows from pectoral to anal shields; femoral pores 17-25 on each side; fourth toe with 18-22 lamellae below; tail 1.3 (young) to 1.8 (adult) times the length of head and body.

Coloration: In this genus, the dark markings may be dominant so that they assume the importance of the ground color, but this arrangement followed is sometimes reversed. Above, dark brown or blackish, head flecked and spotted with citron yellow; each dorsal scale with a citron yellow streak or spot on its inner edge; a broad, white, or lemon yellow, dorsolateral line from head to tail anteriorly, continuous in young, more or less interrupted and indistinct in adults; flanks with light vertical bars in young; limbs dark spotted with lighter. Below, throat, chest, and limbs whitish blotched with pale brown; belly and tail brownish or blackish with some white persisting as fine, light, longitudinal lines along the edges of the ventrals and subcaudals; soles of feet black. Furthermore the tongue is covered with imbricate scale-like papillae; nostril pierced between 2 nasals and first labial; prefrontals and frontoparietal present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; limbs well developed; subdigital scales smooth or tubercular; femoral pores present, (adapted from Loveridge 1943).

Distribution: Southern Africa, except the wetter far south.

Etymology: Named in honour of Keenan Swile of Athlone, Cape Town in South Africa for services to herpetology.

Content: *Swilesaurus validus* Smith, 1849 (monotypic for the genus).

GENUS *FUNKISAURUS GEN. NOV.*

Type Species: *Gerrhosaurus major* Duméril, 1851.

Diagnosis: Head moderate, its length being included in the distance from snout to anus 4.1 (young) to 5.1 (adult) times; head shields rugose; rostral in contact with, or separated from, the frontonasal; frontonasal divided, rarely entire; prefrontals broadly in contact; supraoculars 4, rarely 3; supraciliaries 5, rarely 3-4; tympanic shield narrow, band-like; body cyclotetragonal or slightly depressed; dorsals strongly keeled, striated or rugose, in 17-21 longitudinal and 32-38 transverse rows; laterals keeled and striated; ventrals in 10, rarely 9, longitudinal and 31-34 transverse rows from pectoral to anal shields; femoral pores 12-14; fourth toe with 13-16 lamellae below; tail 1.25 to 1.5 times the length of head and body.

Coloration: Above, uniform fulvous brown or buff. Below, uniform yellowish white. Individuals sometimes occur, which show slight traces of black on the keels and even form ill-defined dark lines on the lumbar region and tail. The loreal region is commonly rusty red; the lips, auricular border, and lateral folds gray-blue; skin between scales bluish; chin and throat orange yellow; rest of undersurface dirty white.

The occipital scale may be present or absent. Furthermore the tongue is covered with imbricate scale-like papillae; nostril pierced between 2 nasals and first labial; prefrontals and frontoparietal present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; limbs well developed; subdigital scales smooth or tubercular; femoral pores present, (adapted from Loveridge 1943).

Comment: *Funkisaurus major* Duméril, 1851 is currently the only species in this genus as defined herein. However several races, treated until now as subspecies, are in my view best treated as full species.

Distribution: Southern Africa, except the wetter far south.

Etymology: Named in honour of Dr Richard Funk, of Mesa, Arizona, United States of America, formerly of Florida, USA, for services to herpetology. For further detail, refer to the etymology for *Funkelapidus* Hoser, 2012 in Hoser (2012).

Content: *Funkisaurus major* Duméril, 1851 (currently monotypic for the species).

GENUS *TETRADACTYLUS* MERREM, 1820.

Type species: *Chalcides tetradactylus* Daudin, 1802.

Diagnosis: Tongue covered with oblique plicae converging anteriorly towards the median line; nostril pierced between 2 (rarely 3) nasals and first labial, or latter rarely excluded; no prefrontals; frontoparietals present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; fore limbs present or absent; digits, if present, smooth inferiorly; femoral pores present or absent (subgenus *Tetradactylus*); or:
Tongue covered with oblique plicae converging anteriorly towards the median line; nostril pierced between a single nasal, first labial, and very near rostral; prefrontals present; frontoparietals present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; no fore limbs; hind limbs minute; no femoral pores (subgenus *Paratetradactylus*).

Distribution: Southern Africa.

Content: *Tetradactylus tetradactylus* (Daudin, 1802) (type species); *T. africanus* (Gray, 1838); *T. breyeri* Roux, 1907; *T. eastwoodae* Hewitt and Methuen, 1913; *T. ellenbergeri* (Angel, 1922); *T. seps* (Linnaeus, 1758); *T. udzungwensis* Salvidio, Menegon, Sindaco and Moyer, 2004.

SUBGENUS *PARATETRADACTYLUS* ANGEL, 1922.

Type species: *Paratetradactylus ellenbergeri* Angel, 1922.

Diagnosis: Tongue covered with oblique plicae converging anteriorly towards the median line; nostril pierced between a single nasal, first labial, and very near rostral; prefrontals present; frontoparietals present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; no fore limbs; hind limbs minute; no femoral pores (subgenus *Paratetradactylus*).

The other subgenus *Tetradactylus* is defined as follows: Tongue covered with oblique plicae converging anteriorly towards the median line; nostril pierced between 2 (rarely 3) nasals and first labial, or latter rarely excluded; no prefrontals; frontoparietals present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; fore limbs present or absent; digits, if present, smooth inferiorly; femoral pores present or absent.

Distribution: Southern Africa.

Content: *Tetradactylus* (*Paratetradactylus*) *ellenbergeri* Angel, 1922 (monotypic for the subgenus).

SUBGENUS *TETRADACTYLUS* MERREM, 1820.

Type species: *Chalcides tetradactylus* Daudin, 1802.

Diagnosis: The subgenus *Tetradactylus* is defined as follows: Tongue covered with oblique plicae converging anteriorly towards the median line; nostril pierced between 2 (rarely 3) nasals and first labial, or latter rarely excluded; no prefrontals; frontoparietals present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; fore limbs present or absent; digits, if present,

smooth inferiorly; femoral pores present or absent.

The subgenus *Paratetradactylus* is defined as follows: Tongue covered with oblique plicae converging anteriorly towards the median line; nostril pierced between a single nasal, first labial, and very near rostral; prefrontals present; frontoparietals present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; no fore limbs; hind limbs minute; no femoral pores.

Distribution: Southern Africa.

Content: *Tetradactylus* (*Tetradactylus*) *tetradactylus* (Daudin, 1802) (type species); *T.* (*Tetradactylus*) *africanus* (Gray, 1838); *T.* (*Tetradactylus*) *breyeri* Roux, 1907; *T.* (*Tetradactylus*) *eastwoodae* Hewitt and Methuen, 1913; *T.* (*Tetradactylus*) *seps* (Linnaeus, 1758); *T.* (*Tetradactylus*) *udzungwensis* Salvidio, Menegon, Sindaco and Moyer, 2004.

GENUS *CORDYLOSAURUS* GRAY, 1865

Type species: *Gerrhosaurus subtessellatus* Smith, 1844.

Diagnosis: Tongue nearly entirely covered with imbricate scale-like papillae; nostril pierced between 2 nasals and first labial; no prefrontals; frontoparietals present (in young) or absent (in adults); lower eyelid with a transparent disk; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; limbs well developed; subdigital scales keeled; femoral pores present.

Head and body depressed. Rostral separated from the frontonasal; no prefrontals; supraoculars 4; supraciliaries 4; frontoparietals, interparietal, and parietal separate and distinct in young, fused into a single shield in adults; tympanic shield narrower or broader than the posterior upper temporal; dorsals distinctly keeled (or nearly smooth), tri- or quinquecarinate or those in lumbar region with a median keel, in 15 longitudinal and 52-55 transverse rows; ventrals in 8 longitudinal rows; femoral pores 7-10 on each side, the distal ones less developed in females; tail about 2 to 2.7 times the length of head and body.

Coloration: Above, dark brown or black; a pale olive, pale buff, or yellowish, dorsolateral line, never more than two scales in width on body, commencing on head becomes pinkish buff or pale greenish blue posteriorly changing to bluish green or bright blue on tail; limbs tinged with pink; feet, or at least the digits, reddish. Below, chin pinkish buff; chest and belly whitish; limbs reddish; or alternatively above, middle of back yellow brown, dorsolateral region chequered white and blackish; sides dark brown; below, brownish.

Distribution: The countries of south-west Africa. This being the drier parts of Angola, Namibia, Republic of South Africa and Botswana.

Content: *Cordylosaurus subtessellatus* Smith, 1844 (monotypic for the genus).

TRIBE *FUNKISAURUSIINI TRIBE NOV.*

Terminal taxon: *Gerrhosaurus major* Duméril, 1851.

Diagnosis: As for the genus *Funkisaurus gen. nov.*
Head moderate, its length being included in the distance from snout to anus 4.1 (young) to 5.1 (adult) times; head shields rugose; rostral in contact with, or separated from, the frontonasal; frontonasal divided, rarely entire; prefrontals broadly in contact; supraoculars 4, rarely 3; supraciliaries 5, rarely 3-4; tympanic shield narrow, band-like; body cyclotetragonal or slightly depressed; dorsals strongly keeled, striated or rugose, in 17-21 longitudinal and 32-38 transverse rows; laterals keeled and striated; ventrals in 10, rarely 9, longitudinal and 31-34 transverse rows from pectoral to anal shields; femoral pores 12-14; fourth toe with 13-16 lamellae below; tail 1.25 to 1.5 times the length of head and body.

Coloration: Above, uniform fulvous brown or buff. Below, uniform yellowish white. Individuals sometimes occur, which show slight traces of black on the keels and even form ill-defined dark lines on the lumbar region and tail. The loreal region is commonly rusty red; the lips, auricular border, and lateral folds gray-blue; skin between scales bluish; chin and throat orange yellow; rest of undersurface dirty white. The occipital scale may be present or absent. Furthermore the tongue is covered with imbricate scale-like papillae; nostril is pierced between 2 nasals and first labial; prefrontals and frontoparietal present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; limbs well developed; subdigital scales smooth or tubercular; femoral pores present, (adapted from Loveridge 1943).

Comment: *Funkisaurus major* Duméril, 1851 is currently the only species in the genus *Funkisaurus gen. nov.* as defined herein. However several races, treated until now as subspecies, are in my view best treated as full species.

Distribution: Southern Africa, except the wetter far south.

Etymology: Named in honour of Dr Richard Funk, of Mesa, Arizona, the United States of America, formerly of Florida, USA, for services to herpetology. For further detail, refer to the etymology for *Funkelapidus* Hoser, 2012 in Hoser (2012).

Content: *Funkisaurus gen. nov.* (see above).

TRIBE TETRADACTYLUSIINI *TRIBE NOV.*

Terminal taxon: *Chalcides tetradactylus* Daudin, 1802.

Diagnosis: As for the two component genera.

For *Cordylosaurus* Gray, 1865 the tongue is nearly entirely covered with imbricate scale-like papillae; nostril pierced between 2 nasals and first labial; no prefrontals; frontoparietals present (in young) or absent (in adults); lower eyelid with a transparent disk; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; limbs well developed; subdigital scales keeled; femoral pores present.

Head and body depressed. Rostral separated from the frontonasal; no prefrontals; supraoculars 4; supraciliaries 4; frontoparietals, interparietal, and parietal separate and distinct in young, fused into a single shield in adults; tympanic shield narrower or broader than the posterior upper temporal; dorsals distinctly keeled (or nearly smooth), tri- or quinquecarinate or those in lumbar region with a median keel, in 15 longitudinal and 52-55 transverse rows; ventrals in 8 longitudinal rows; femoral pores 7-10 on each side, the distal ones less developed in females; tail about 2 to 2.7 times the length of head and body.

Coloration: Above, dark brown or black; a pale olive, pale buff, or yellowish, dorsolateral line, never more than two scales in width on body, commencing on head becomes pinkish buff or pale greenish blue posteriorly changing to bluish green or bright blue on tail; limbs tinged with pink; feet, or at least the digits, reddish. Below, chin pinkish buff; chest and belly whitish; limbs reddish; or alternatively above, middle of back yellow brown, dorsolateral region chequered white and blackish; sides dark brown; below, brownish, (genus *Cordylosaurus* Gray, 1865), or: one or other of the following for either subgenus within *Tetradactylus* Merrem, 1820:

The subgenus *Tetradactylus* is defined as follows: Tongue is covered with oblique plicae converging anteriorly towards the median line; nostril pierced between 2 (rarely 3) nasals and first labial, or latter rarely excluded; no prefrontals; frontoparietals present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; fore limbs present or absent; digits, if present, smooth inferiorly; femoral pores present or absent, or:

The subgenus *Paratetradactylus* is defined as follows: Tongue covered with oblique plicae converging anteriorly towards the median line; nostril pierced between a single nasal, first labial, and very near rostral; prefrontals present; frontoparietals present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; no fore limbs; hind limbs minute; no femoral pores.

Distribution: Southern Africa.

Content: *Tetradactylus* Merrem, 1820; *Cordylosaurus* Gray, 1865.

TRIBE GERRHOSAURIINI *TRIBE NOV.*

Terminal taxon: *Gerrhosaurus flavigularis* Wiegmann, 1828.

Diagnosis: Tongue covered with imbricate scale-like papillae; nostril pierced between 2 nasals and first labial; prefrontals and frontoparietal present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; limbs well developed; subdigital scales smooth or tubercular; femoral pores present, (adapted from Loveridge 1943).

The tribe *Funkisaurusiini tribe nov*. (monotypic for the genus *Funkisaurus gen. nov.*) is separated from this tribe (*Gerrhosaurusiini tribe nov.*) by the following suite of characters: Head moderate, its length being included in the distance from snout to anus 4.1 (young) to 5.1 (adult) times; head shields rugose; rostral in contact with, or separated from, the frontonasal; frontonasal divided, rarely entire; prefrontals broadly in contact; supraoculars 4, rarely 3; supraciliaries 5, rarely 3-4; tympanic shield narrow, band-like; body cyclotetragonal or slightly depressed; dorsals strongly keeled, striated or rugose, in 17-21 longitudinal and 32-38 transverse rows; laterals keeled and striated; ventrals in 10, rarely 9, longitudinal and 31-34 transverse rows from pectoral to anal shields; femoral pores 12-14; fourth toe with 13-16 lamellae below; tail 1.25 to 1.5 times the length of head and body.

Coloration: Above, uniform fulvous brown or buff. Below, uniform yellowish white. Individuals sometimes occur, which show slight traces of black on the keels and even form ill-defined dark lines on the lumbar region and tail. The loreal region is commonly rusty red; the lips, auricular border, and lateral folds gray-blue; skin between scales bluish; chin and throat orange yellow; rest of undersurface dirty white.

The occipital scale may be present or absent.

Distribution: Africa.

Content: *Gerrhosaurus* Wiegmann, 1828; *Swilesaurus gen. nov.*

SUBTRIBE GERRHOSAURIINA *SUBTRIBE NOV.*

Terminal taxon: *Gerrhosaurus flavigularis* Wiegmann, 1828.

Diagnosis: As for the tribe Gerrhosauriini, but by elimination of the other subtribe within this tribe, namely Swilesauriina *subtribe nov.*, itself monotypic for the genus *Swilesaurus gen. nov.*.

Swilesaurus gen. nov. (Swilesauriina *tribe nov.*) is separated from the genus *Gerrhosaurus* defined above by the following suite of characters: Head moderate, its length being included in the distance from snout to anus 4 (young) to 4.9 (adult) times; head shields smooth (young), feebly striated (halfgrown), or rugose (adult); rostral separated from, very rarely in contact with, the frontonasal; prefrontals broadly in contact; supraoculars 4; supraciliaries 5; subocular excluded from lip by labial; tympanic shield narrow and bandlike (young) or broad and subtriangular (adult) ; body cyclotetragonal or depressed; dorsals keeled, unicarinate (young), tricarinate (halfgrown), or multicarinate (adult), and serrated, in 28-34 longitudinal and 50-56 transverse rows; laterals keeled and sometimes striated also; ventrals in 14-20 longitudinal and 40-44 transverse rows from pectoral to anal shields; femoral pores 17-25 on each side; fourth toe with 18-22 lamellae below; tail 1.3 (young) to 1.8 (adult) times the length of head and body.

Coloration: In this genus, the dark markings may be dominant so that they assume the importance of the ground color, but this arrangement followed is sometimes reversed. Above, dark brown or blackish, head flecked and spotted with citron yellow; each dorsal scale with a citron yellow streak or spot on its inner edge; a broad, white, or lemon yellow, dorsolateral line from head to tail anteriorly, continuous in young, more or less interrupted and indistinct in adults; flanks with light vertical bars in young; limbs dark spotted with lighter. Below, throat, chest, and limbs whitish blotched with pale brown; belly and tail brownish or blackish with some white persisting as fine, light, longitudinal lines along the edges of the ventrals and subcaudals; soles of feet black. Furthermore in *Swilesaurus* (Swilesaurusiina *subtribe nov.*) and the subtribe Gerrhosaurusiina *subtribe nov.*, the tongue is covered with imbricate scale-like papillae; nostril pierced between 2 nasals and first labial; prefrontals and frontoparietal present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; limbs well developed; subdigital scales smooth or tubercular; femoral pores present, (adapted from Loveridge 1943).

Distribution: Africa.

Content: *Gerrhosaurus* Wiegmann, 1828.

SUBTRIBE SWILESAURIINA *SUBTRIBE NOV.*

Terminal taxon: *Gerrhosaurus validus* Smith, 1849.

Diagnosis: Separated from the genus *Gerrhosaurus* defined above by the following suite of characters: Head moderate, its length being included in the distance from snout to anus 4 (young) to 4.9 (adult) times; head shields smooth (young), feebly striated (halfgrown), or rugose (adult); rostral separated from, or very rarely in contact with, the frontonasal; prefrontals broadly in contact; supraoculars 4; supraciliaries 5; subocular excluded from lip by labial; tympanic shield narrow and bandlike (young) or broad and subtriangular (adult); body cyclotetragonal or depressed; dorsals keeled, unicarinate (young), tricarinate (halfgrown), or multicarinate (adult), and serrated, in 28-34 longitudinal and 50-56 transverse rows; laterals keeled and sometimes striated also; ventrals in 14-20 longitudinal and 40-44 transverse rows from pectoral to anal shields; femoral pores 17-25 on each side; fourth toe with 18-22 lamellae below; tail 1.3 (young) to 1.8 (adult) times the length of head and body.

Coloration: In this genus, the dark markings may be dominant so that they assume the importance of the ground color, but this arrangement followed is sometimes reversed. Above, dark brown or blackish, head flecked and spotted with citron yellow; each dorsal scale with a citron yellow streak or spot on its inner edge; a broad, white, or lemon yellow, dorsolateral line from head to tail anteriorly, continuous in young, more or less interrupted and indistinct in adults; flanks with light vertical bars in young; limbs dark spotted with lighter. Below, throat, chest, and limbs whitish blotched with pale brown; belly and tail brownish or blackish with some white persisting as fine, light, longitudinal lines along the edges of the ventrals and subcaudals; soles of feet black. Furthermore the tongue is covered with imbricate scale-like papillae; nostril pierced between 2 nasals and first labial; prefrontals and frontoparietal present; lower eyelid scaly; dorsal and ventral scales forming straight longitudinal and transverse series; a strong lateral fold; limbs well developed; subdigital scales smooth or tubercular; femoral pores present, (adapted from Loveridge 1943).

Distribution: Southern Africa, except the wetter far south.

Content: *Swilesaurus gen. nov.*

SUBFAMILY ZONOSAURINAE LANG, 1991.

Diagnosis: Ventral plates not forming straight transverse series; nostril pierced between 2 nasals, first labial and the rostral. Otherwise as for the family Gerrhosauridae, (adapted from Loveridge 1943).

Distribution: Madagascar.

Content: (Genera): *Zonosaurus* Boulenger, 1887 (type genus); *Hawkeswoodsaurus gen. nov.*; *Tracheloptychus* Peters, 1854; *Wellingtonsaurus gen. nov.*; *Wellssaurus gen. nov.*

GENUS *ZONOSAURUS* BOULENGER, 1887.

Type species: *Cicigna madagascariensis* Gray, 1831.

Diagnosis: In his original description of the genus *Zonosaurus*, Boulenger (1887) at page 127 did not specify a type species for the genus and as far as I can ascertain, no author has done so since.

Therefore, in accordance with the relevant sections of the current Zoological Code (Ride *et al.* 1999), namely Articles 69 and 69A and the relevant parts therein, I hereby designate the

species *Cicigna madagascariensis* Gray, 1831 as the type species for the genus *Zonosaurus* Boulenger, 1887. It should be noted that this species taxon was the first of three that Boulenger listed in his descriptions of the three species within this newly created genus.

The genus *Zonosaurus* Boulenger, 1887 is herein diagnosed and separated from other Zonosaurinae by the following suite of characters: Interparietal usually absent, four upper labials anterior to the subocular; 16 to 22 femoral pores on each side. In common with other Zonosaurinae the genus *Zonosaurus* Boulenger, 1887 has the following diagnostic features: Nostril pierced between the rostral, the first labial, and two nasals; prefrontal shields present, no frontoparietals. Lower eyelid scaly. A strong lateral fold. Dorsal scales forming straight longitudinal and transverse series, ventrals hexagonal, in longitudinal series. Subdigital scales smooth or tubercular. Tongue nearly entirely covered with rhomboidal papillae.

The genus *Zonosaurus* Boulenger, 1887 is in turn further separated from the genera *Wellssaurus gen. nov.*, *Hawkeswoodsaurus gen. nov.* and *Wellingtonsaurus gen. nov.* by absence of the suite of characters for each genus as outlined in the descriptions below.

Tracheloptychus Peters, 1854 is separated from other Zonosaurinae by the following suite of characters: Nostril pierced between the rostral, the first labial, and two nasals. Prefrontal and frontoparietal shields present. Lower eyelid scaly. No lateral fold on the body. Dorsal and ventral scales arranged quincuncially, laterals forming straight longitudinal and transverse series. Subdigital scales keeled. Tongue entirely covered with rhomboidal papillae.

Distribution: Madagascar.

Content: *Zonosaurus madagascariensis* (Gray, 1831) (type species); Z. *haraldmeieri* Brygoo and Böhme, 1985.

GENUS *WELLSSAURUS GEN. NOV.*

Type species: *Zonosaurus boettgeri* Steindachner, 1891.

Diagnosis: Separated from other Zonosaurinae by one or other of the following suite of characters:

1/ fewer than 17 rows of scales around the body (as opposed to more than 17 in all other species, and an extremely long original tail being more than 2.5 times longer than their snout-vent length, and a conspicuous color pattern of transverse dark bars, (for species *Wellssaurus boettgeri* Steindachner, 1891 or *W. maramaintso* Raselimanana, Nussbaum and Raxworthy, 2006 of subgenus *Wellssaurus subgen. nov.*) or:

2/ Fronto-nasal a little broader than long, forming a broad suture with the rostral, and widely separated from the frontal, the praefrontals forming a long median suture, three or four lower labials anterior to the subocular, a small interparietal. Dorsal scales strongly keeled, in 20 or 22 longitudinal and 45 or 46 transverse series (from occiput to base of tail), ventrals in 8 longitudinal series. 20 to 30 femoral pores on each side. Tail moderately depressed at the base, strongly compressed further back, about one and two fifths the length of the head and body. Dark olive-brown above, more or less distinctly spotted with darker colour, with or without a series of pale olive spots along each side of the back, sides pale olive, speckled and spotted with dark brown, yellowish or greenish-white beneath, (for species *W. maximus* Boulenger, 1896 of subgenus *Lukefabasaurus subgen. nov.*).

The genus *Zonosaurus* Boulenger, 1887 is herein diagnosed and separated from other Zonosaurinae by the following suite of characters: Interparietal usually absent, four upper labials anterior to the subocular; 16 to 22 femoral pores on each side.

In common with other Zonosaurinae the genus *Wellssaurus gen. nov.* and both subgenera have the following diagnostic features: Nostril pierced between the rostral, the first labial, and two nasals; prefrontal shields present, no frontoparietals. Lower eyelid scaly. A strong lateral fold. Dorsal scales forming straight longitudinal and transverse series, ventrals hexagonal, in longitudinal series. Subdigital scales smooth or tubercular. Tongue nearly entirely covered with rhomboidal papillae.

Tracheloptychus Peters, 1854 is separated from other Zonosaurinae by the following suite of characters: Nostril pierced between the rostral, the first labial, and two nasals. Prefrontal and frontoparietal shields present. Lower eyelid scaly. No lateral fold on the body. Dorsal and ventral scales arranged quincuncially, laterals forming straight longitudinal and transverse series. Subdigital scales keeled. Tongue entirely covered with rhomboidal papillae.

Distribution: Madagascar.

Etymology: Named in honour of Richard Wells of Lismore in New South Wales, Australia, in recognition of a stellar career as an Australian herpetologist, best known for several major taxonomic publications in the 1980's (with co-author Cliff Ross Wellington) and also the post 2000 period.

Content: *Wellssaurus boettgeri* (Steindachner, 1891) (type species); *W. maramaintso* (Raselimanana, Nussbaum and Raxworthy, 2006); *W. maximus* (Boulenger, 1896).

SUBGENUS *WELLSSAURUS SUBGEN. NOV.*

Type species: *Zonosaurus boettgeri* Steindachner, 1891.

Diagnosis: Separated from other Zonosaurinae and the subgenus *Lukefabasaurus subgen. nov.* by the following suite of characters: Fewer than 17 rows of scales around the body (as opposed to more than 17 in all other species, and an extremely long original tail being more than 2.5 times longcr than their snout-vent length, and a conspicuous color pattern of transverse dark bars, (for species *Wellssaurus boettgeri* Steindachner, 1891 or *W. maramaintso* Raselimanana, Nussbaum and Raxworthy, 2006).

The subgenus *Wellssaurus subgen. nov.* is separated from the subgenus *Lukefabasaurus subgen. nov.* which possesses the following suite of characters: Fronto-nasal a little broader than long, forming a broad suture with the rostral, and widely separated from the frontal,the prgefrontals forming a long median suture, three or four lower labials anterior to the subocular, a small interparietal. Dorsal scales strongly keeled, in 20 or 22 longitudinal and 45 or 46 transverse series (from occiput to base of tail), ventrals in 8 longitudinal series. 20 to 30 femoral pores on each side. Tail moderately depressed at the base, strongly compressed further back, about once and two fifths the length of head and body. Dark olive-brown above, more or less distinctly spotted with darker, with or without a series of pale olive spots along each side of the back, sides pale olive, speckled and spotted with dark brown, yellowish or greenishwhite beneath, (for species *W.* (*Lukefabasaurus*) *maximus* Boulenger, 1896).

In common with other Zonosaurinae the genus *Wellssaurus gen. nov.* and both subgenera have the following diagnostic features: Nostril pierced between the rostral, the first labial, and two nasals; prefrontal shields present, no frontoparietals. Lower eyelid scaly. A strong lateral fold. Dorsal scales forming straight longitudinal and transverse series, ventrals hexagonal, in longitudinal series. Subdigital scales smooth or tubercular. Tongue nearly entirely covered with rhomboidal papillae.

Tracheloptychus Peters, 1854 is separated from other Zonosaurinae by the following suite of characters: Nostril pierced between the rostral, the first labial, and two nasals. Prefrontal and frontoparietal shields present. Lower eyelid scaly. No lateral fold on the body. Dorsal and ventral scales arranged quincuncially, laterals forming straight longitudinal and transverse series. Subdigital scales keeled. Tongue entirely covered with rhomboidal papillae.

Distribution: Madagascar.

Etymology: Named in honour of Richard Wells of Lismore in New South Wales, Australia, in recognition of a stellar career as a herpetologist, best known for several major taxonomic

publications in the 1980's (with co-author Cliff Ross Wellington) and also the post 2000 period.

Content: *Wellssaurus* (*Wellssaurus*) *boettgeri* (Steindachner, 1891) (type species); *W.* (*Wellssaurus*) *maramaintso* (Raselimanana, Nussbaum and Raxworthy, 2006).

SUBGENUS *LUKEFABASAURUS SUBGEN. NOV.*

Type species: *Zonosaurus maximus* Boulenger, 1896.

Diagnosis: The subgenus *Lukefabasaurus subgen. nov.* is separated from the subgenus *Wellssaurus subgen. nov.* by the following suite of characters: Fronto-nasal a little broader than long, forming a broad suture with the rostral, and widely separated from the frontal,the praefrontals forming a long median suture, three or four lower labials anterior to the subocular, a small interparietal. Dorsal scales strongly keeled, in 20 or 22 longitudinal and 45 or 46 transverse series (from occiput to base of tail), ventrals in 8 longitudinal series. 20 to 30 femoral pores on each side. Tail moderately depressed at the base, strongly compressed further back, about once and two fifths the length of head and body. Dark olive-brown above, more or less distinctly spotted with darker, with or without a series of pale olive spots along each side of the back, sides pale olive, speckled and spotted with dark brown, yellowish or greenishwhite beneath, (for species *W.* (*Lukefabasaurus*) *maximus* Boulenger, 1896).

The subgenus *Wellssaurus subgen. nov.* is separated from other Zonosaurinae and the subgenus *Lukefabasaurus subgen. nov.* by the following suite of characters: Fewer than 17 rows of scales around the body (as opposed to more than 17 in all other species, and an extremely long original tail being more than 2.5 times longcr than their snout-vent length, and a conspicuous color pattern of transverse dark bars, (for species *Wellssaurus boettgeri* Steindachner, 1891 or *W. maramaintso* Raselimanana, Nussbaum and Raxworthy, 2006).

In common with other Zonosaurinae the genus *Wellssaurus gen. nov.* and both subgenera have the following diagnostic features: Nostril pierced between the rostral, the first labial, and two nasals; prefrontal shields present, no frontoparietals. Lower eyelid scaly. A strong lateral fold. Dorsal scales forming straight longitudinal and transverse series, ventrals hexagonal, in longitudinal series. Subdigital scales smooth or tubercular. Tongue nearly entirely covered with rhomboidal papillae.

Tracheloptychus Peters, 1854 is separated from other Zonosaurinae by the following suite of characters: Nostril pierced between the rostral, the first labial, and two nasals. Prefrontal and frontoparietal shields present. Lower eyelid scaly. No lateral fold on the body. Dorsal and ventral scales arranged quincuncially, laterals forming straight longitudinal and transverse series. Subdigital scales keeled. Tongue entirely covered with rhomboidal papillae.

Distribution: Madagascar.

Etymology: Named in honour of Luke Faba of Doncaster, Victoria, Australia, in recognition of his contributions to herpetology in his role as lawyer, defending this author against bogus criminal charges and other relevant legal matters, initiated by police-protected criminals and laid by corrupt wildlife officers in Victoria, Australia.

Content: *Wellssaurus* (*Lukefabasaurus*) *maximus* (Boulenger, 1896).

GENUS *HAWKESWOODSAURUS GEN. NOV.*

Type species: *Gerrhosaurus* (*Cicigna*) *rufipes* Boettger, 1881.

Diagnosis: *Hawkeswoodsaurus gen. nov.* are separated from all other Zonosaurini, including *Wellingtonsaurus gen. nov.* by having an adult snout-vent length of less than 94 mm and 2-3 supralabials anterior to the subocular.

This compares with an adult snout-vent length of 132-230 mm and 4-5 supralabials anterior to the subocular in all species within *Wellingtonsaurus gen. nov.*.

Within this diagnosis for the genus *Hawkeswoodsaurus gen. nov.* includes the exceptional species *Hawkeswoodsaurus tsingy* (Raselimanana, Raxworthy and Nussbaum, 2000), which has 2-4 supralabials anterior to the subocular and is separated from all other *Hawkeswoodsaurus gen. nov.* and all *Wellingtonsaurus gen. nov.* species by the following characters: Femoral pores 14-20; no obvious dorsolateral lines (dark or pale brown) between level of insertion of hind-limbs and the base of the tail; throat lacking obvious bold black longitudinal lines; skin on dorsum of body fragile (very easily broken if

restrained during handling).

The genus *Zonosaurus* Boulenger, 1887 is herein diagnosed and separated from other Zonosaurinae by the following suite of characters: Interparietal usually absent, four upper labials anterior to the subocular; 16 to 22 femoral pores on each side.

The genus *Wellssaurus gen. nov.* is separated from other Zonosaurinae by one or other of the following suite of characters:

1/ Fewer than 17 rows of scales around the body (as opposed to more than 17 in all other species, and an extremely long original tail being more than 2.5 times longer than their snout-vent length, and a conspicuous color pattern of transverse dark bars, (for species *Wellssaurus boettgeri* Steindachner, 1891 or *W. maramaintso* Raselimanana, Nussbaum and Raxworthy, 2006 of subgenus *Wellssaurus subgen. nov.*) or:

2/ Fronto-nasal a little broader than long, forming a broad suture with the rostral, and widely separated from the frontal,the praefrontals forming a long median suture, three or four lower labials anterior to the subocular, a small interparietal. Dorsal scales strongly keeled, in 20 or 22 longitudinal and 45 or 46 transverse series (from occiput to base of tail), ventrals in 8 longitudinal series. 20 to 30 femoral pores on each side. Tail moderately depressed at the base, strongly compressed further back, about one and two fifths the length of head and body. Dark olive-brown above, more or less distinctly spotted with darker colour, with or without a series of pale olive spots along each side of the back, sides pale olive, speckled and spotted with dark brown, yellowish or greenishwhite beneath, (for species *W. maximus* Boulenger, 1896 of subgenus *Lukefabasaurus subgen. nov.*).

In common with other Zonosaurinae the genus *Hawkeswoodsaurus gen. nov.* and all four subgenera have the following diagnostic features: Nostril pierced between the rostral, the first labial, and two nasals; prefrontal shields present, no frontoparietals. Lower eyelid scaly. A strong lateral fold. Dorsal scales forming straight longitudinal and transverse series, ventrals hexagonal, in longitudinal series. Subdigital scales smooth or tubercular. Tongue nearly entirely covered with rhomboidal papillae.

Tracheloptychus Peters, 1854 is separated from other Zonosaurinae by the following suite of characters: Nostril pierced between the rostral, the first labial, and two nasals. Prefrontal and frontoparietal shields present. Lower eyelid scaly. No lateral fold on the body. Dorsal and ventral scales arranged quincuncially, laterals forming straight longitudinal and transverse series. Subdigital scales keeled. Tongue entirely covered with rhomboidal papillae.

Distribution: Madagascar.

Etymology: Named in honour of Dr. Trevor J. Hawkeswood, biologist and author of scientific papers, books and other publications on Australian, New Guinean and other non-Australasian plants and animals, in recognition for his valuable work in relation to invertebrate systematics, most notably that of beetles.

Content: *Hawkeswoodsaurus rufipes* (Boettger, 1881) (type species); *H. aeneus* (Grandidier, 1872); *H. bemaraha* (Raselimanana, Raxworthy and Nussbaum, 2000); *H. brygooi* (Lang and Böhme, 1990); *H. rufipes* (Boettger, 1881); *H. subunicolor* (Boettger, 1881); *H. tsingy* (Raselimanana, Raxworthy and Nussbaum, 2000).

SUBGENUS *RASELIMANANASAURUS SUBGEN. NOV.*

Type species: *Gerrhosaurus aeneus* Grandidier, 1872.

Diagnosis: This subgenus, monotypic for the species *Hawkeswoodsaurus aeneus* (Grandidier, 1872), is separated from all other Zonosaurinae by the following suite of characters: An adult snout-vent length of under 94 mm; a pale dorsolateral line on the anterior half of the body, broken or continuous; 51-59 ventral scale rows between the chin and cloaca; usually one (rarely two) supralabial/s posterior to the subocular; 2-3 supralabials anterior to the subocular.

Tracheloptychus Peters, 1854 is separated from other Zonosaurinae by the following suite of characters: Nostril pierced between the rostral, the first labial, and two nasals. Prefrontal and frontoparietal shields present. Lower eyelid scaly. No lateral fold on the body. Dorsal and ventral scales arranged quincuncially, laterals forming straight longitudinal and transverse series. Subdigital scales keeled. Tongue entirely covered with rhomboidal papillae.

Distribution: Madagascar.

Etymology: Named in honour of Achille P. Raselimanana of Antananarivo, Madagascar, in recognition of his work on the systematics of Madagascan lizards.

Content: *Hawkeswoodsaurus* (*Raselimananasaurus*) *aeneus* (Grandidier, 1872).

SUBGENUS *RAXWORTHYSAURUS SUBGEN. NOV.*

Type species: *Zonosaurus brygooi* Lang and Böhme, 1990.

Diagnosis: *Raxworthysaurus subgen. nov.* monotypic for the species *Hawkeswoodsaurus brygooi* (Lang and Böhme, 1990) is separated from all other Zonosaurinae by the following suite of characters: An adult snout-vent length of under 76 mm; a pale and always broken dorsolateral line on the anterior third to half of the body; 43-50 ventral scale rows between the chin and cloaca; always two supralabials posterior to the subocular on both sides of the head; always three supralabials anterior to subocular; lamellae under the fourth toe 16-21; femoral pores 13-20.

Tracheloptychus Peters, 1854 is separated from other Zonosaurinae by the following suite of characters: Nostril pierced between the rostral, the first labial, and two nasals. Prefrontal and frontoparietal shields present. Lower eyelid scaly. No lateral fold on the body. Dorsal and ventral scales arranged quincuncially, laterals forming straight longitudinal and transverse series. Subdigital scales keeled. Tongue entirely covered with rhomboidal papillae.

Distribution: Madagascar.

Etymology: Named in honour of Christopher J. Raxworthy of Kansas, USA, in recognition of his work on the systematics of Madagascan lizards.

Content: *Hawkeswoodsaurus* (*Raxworthysaurus*) *brygooi* (Lang and Böhme, 1990).

SUBGENUS *NUSSBAUMSAURUS SUBGEN. NOV.*

Type species: *Zonosaurus tsingy* Raselimanana, Raxworthy and Nussbaum, 2000.

Diagnosis: *Nussbaumsaurus subgen. nov.* monotypic for the species *Hawkeswoodsaurus tsingy* (Raselimanana, Raxworthy and Nussbaum, 2000) is separated from all other Zonosaurinae by the following suite of characters: An adult snout-vent length of under 94 mm; 2-4 supralabials anterior to the subocular; no pale dorsolateral line present on the anterior half of the body; femoral pores 14-20; no obvious dorsolateral lines (dark or pale brown) between level of insertion of hind-limbs and the base of the tail; throat lacking obvious bold black longitudinal lines; skin on dorsum of body fragile, as in it is very easily broken if restrained during handling.

Tracheloptychus Peters, 1854 is separated from other Zonosaurinae by the following suite of characters: Nostril pierced between the rostral, the first labial, and two nasals. Prefrontal and frontoparietal shields present. Lower eyelid scaly. No lateral fold on the body. Dorsal and ventral scales arranged quincuncially, laterals forming straight longitudinal and transverse series. Subdigital scales keeled. Tongue entirely covered with rhomboidal papillae.

Distribution: Madagascar.

Etymology: Named in honour of Ronald A. Nussbaum of Michigan, USA, in recognition of his work on the systematics of Madagascan lizards.

Content: *Hawkeswoodsaurus* (*Nussbaumsaurus*) *tsingy* (Raselimanana, Raxworthy and Nussbaum, 2000).

SUBGENUS *HAWKESWOODSAURUS SUBGEN. NOV.*

Type species: *Gerrhosaurus* (*Cicigna*) *rufipes* Boettger, 1881.

Diagnosis: The subgenus *Hawkeswoodsaurus subgen. nov.* is best separated from the other subgenera within the genus *Hawkeswoodsaurus gen. nov.* by a process of elimination of the three other subgenera.

The subgenus *Raselimananasaurus subgen. nov.*, monotypic for the species *Hawkeswoodsaurus aeneus* (Grandidier, 1872), is separated from all other Zonosaurinae by the following suite of characters: An adult snout-vent length of under 94 mm; a pale dorsolateral line on the anterior half of the body, broken or continuous; 51-59 ventral scale rows between the chin and cloaca; usually one (rarely two) supralabial/s posterior to the subocular; 2-3 supralabials anterior to the subocular.

Raxworthysaurus subgen. nov. monotypic for the species *Hawkeswoodsaurus brygooi* (Lang and Böhme, 1990) is separated from all other Zonosaurinae by the following suite of characters: An adult snout-vent length of under 76 mm; a pale and always broken dorsolateral line on the anterior third to half of the body; 43-50 ventral scale rows between the chin and cloaca; always two supralabials posterior to the subocular on both sides of the head; always three supralabials anterior to subocular; lamellae under the fourth toe 16-21; femoral pores 13-20.

Nussbaumsaurus subgen. nov. is monotypic for the species *Hawkeswoodsaurus tsingy* (Raselimanana, Raxworthy and Nussbaum, 2000) and is separated from all other Zonosaurinae by the following suite of characters: An adult snout-vent length of under 94 mm; 2-4 supralabials anterior to the subocular; no pale dorsolateral line present on the anterior half of the body; femoral pores 14-20; no obvious dorsolateral lines (dark or pale brown) between level of insertion of hind-limbs and the base of the tail; throat lacking obvious bold black longitudinal lines; skin on dorsum of body fragile, as in it is very easily broken if restrained during handling.

Hawkeswoodsaurus subgen. nov. (including all within the nominate subgenus) are separated from all other Zonosaurini, including *Wellingtonsaurus gen. nov.* by having an adult snout-vent length of less than 94 mm and 2-3 supralabials anterior to the subocular.

This compares with an adult snout-vent length of 132-230 mm and 4-5 supralabials anterior to the subocular in all species within *Wellingtonsaurus gen. nov.*.

Within this diagnosis for the genus *Hawkeswoodsaurus gen. nov.* includes the exceptional species *Hawkeswoodsaurus tsingy* (Raselimanana, Raxworthy and Nussbaum, 2000), which has 2-4 supralabials anterior to the subocular and is separated from all other *Hawkeswoodsaurus gen. nov.* and all *Wellingtonsaurus gen. nov.* species by the following characters: Femoral pores 14-20; no obvious dorsolateral lines (dark or pale brown) between level of insertion of hind-limbs and the base of the tail; throat lacking obvious bold black longitudinal lines; skin on dorsum of body fragile (very easily broken if

restrained during handling).

The genus *Zonosaurus* Boulenger, 1887 is herein diagnosed and separated from other Zonosaurinae by the following suite of characters: Interparietal usually absent, four upper labials

anterior to the subocular; 16 to 22 femoral pores on each side.

The genus *Wellssaurus gen. nov*. is separated from other Zonosaurinae by one or other of the following suite of characters:

1/ Fewer than 17 rows of scales around the body (as opposed to more than 17 in all other species, and an extremely long original tail being more than 2.5 times longcr than their snout-vent length, and a conspicuous color pattern of transverse dark bars, (for species *Wellssaurus boettgeri* Steindachner, 1891 or *W. maramaintso* Raselimanana, Nussbaum and Raxworthy, 2006 of subgenus *Wellssaurus subgen. nov*.) or:

2/ Fronto-nasal a little broader than long, forming a broad suture with the rostral, and widely separated from the frontal,the praefrontals forming a long median suture, three or four lower labials anterior to the subocular, a small interparietal. Dorsal scales strongly keeled, in 20 or 22 longitudinal and 45 or 46 transverse series (from occiput to base of tail), ventrals in 8 longitudinal series. 20 to 30 femoral pores on each side. Tail moderately depressed at the base, strongly compressed further back, about one and two fifths the length of head and body. Dark olive-brown above, more or less distinctly spotted with darker colour, with or without a series of pale olive spots along each side of the back, sides pale olive, speckled and spotted with dark brown, yellowish or greenish-white beneath, (for species *W. maximus* Boulenger, 1896 of subgenus *Lukefabasaurus subgen. nov*.).

In common with other Zonosaurinae the genus *Hawkeswoodsaurus gen. nov*. and all four subgenera have the following diagnostic features: Nostril pierced between the rostral, the first labial, and two nasals; prefrontal shields present, no frontoparietals. Lower eyelid scaly. A strong lateral fold. Dorsal scales forming straight longitudinal and transverse series, ventrals hexagonal, in longitudinal series. Subdigital scales smooth or tubercular. Tongue nearly entirely covered with rhomboidal papillae.

Tracheloptychus Peters, 1854 is separated from other Zonosaurinae by the following suite of characters: Nostril pierced between the rostral, the first labial, and two nasals. Prefrontal and frontoparietal shields present. Lower eyelid scaly. No lateral fold on the body. Dorsal and ventral scales arranged quincuncially, laterals forming straight longitudinal and transverse series. Subdigital scales keeled. Tongue entirely covered with rhomboidal papillae.

Distribution: Madagascar.

Etymology: Named in honour of Dr. Trevor J. Hawkeswood, biologist and author of scientific papers, books and other publications on Australian, New Guinean and other non-Australasian plants and animals, in recognition for his valuable work in relation to invertebrate systematic, most notably that work he has done on beetles.

Content: *Hawkeswoodsaurus rufipes* (Boettger, 1881) (type species); *H.* (*Hawkeswoodsaurus*) *bemaraha* (Raselimanana, Raxworthy and Nussbaum, 2000); *H.* (*Hawkeswoodsaurus*) *rufipes* (Boettger, 1881); *H.* (*Hawkeswoodsaurus*) *subunicolor* (Boettger, 1881).

GENUS *WELLINGTONSAURUS GEN. NOV.*

Type species: *Gerrhosaurus laticaudatus* Grandidier, 1869.

Diagnosis: *Hawkeswoodsaurus gen. nov*. (described above) are separated from all other Zonosaurini, including *Wellingtonsaurus gen. nov.* by having an adult snout-vent length of less than 94 mm and 2-3 supralabials anterior to the subocular.

This contrasts with *Wellingtonsaurus gen. nov.* which is diagnosed herein by having an adult snout-vent length of 132-230 mm and 4-5 supralabials anterior to the subocular in all species (within *Wellingtonsaurus gen. nov*.).

Within the preceding diagnosis for the genus *Hawkeswoodsaurus gen. nov*. includes the exceptional species *Hawkeswoodsaurus tsingy* (Raselimanana, Raxworthy and Nussbaum, 2000), which has 2-4 supralabials anterior to the subocular and is separated from all other *Hawkeswoodsaurus gen. nov*. and all *Wellingtonsaurus gen. nov.* species by the following characters: Femoral pores 14-20; no obvious dorsolateral lines (dark or pale brown) between level of insertion of hind-limbs and the base of the tail; throat lacking obvious bold black longitudinal lines; skin on dorsum of body fragile (very easily broken if

restrained during handling).

The genus *Zonosaurus* Boulenger, 1887 is herein diagnosed and separated from other Zonosaurinae by the following suite of characters: Interparietal usually absent, four upper labials anterior to the subocular; 16 to 22 femoral pores on each side.

The genus *Wellssaurus gen. nov.* is separated from other Zonosaurinae by one or other of the following suites of characters:

1/ Fewer than 17 rows of scales around the body (as opposed to more than 17 in all other species, and an extremely long original tail being more than 2.5 times longcr than their snout-vent length, and a conspicuous color pattern of transverse dark bars, (for species *Wellssaurus boettgeri* Steindachner, 1891 or *W. maramaintso* Raselimanana, Nussbaum and Raxworthy, 2006 of subgenus *Wellssaurus subgen. nov*.) or:

2/ Fronto-nasal a little broader than long, forming a broad suture with the rostral, and widely separated from the frontal, the praefrontals forming a long median suture, three or four lower labials anterior to the subocular, a small interparietal. Dorsal scales strongly keeled, in 20 or 22 longitudinal and 45 or 46 transverse series (from occiput to base of tail), ventrals in 8 longitudinal series. 20 to 30 femoral pores on each side. Tail moderately depressed at the base, strongly compressed further back, about one and two fifths the length of head and body. Dark olive-brown above, more or less distinctly spotted with darker, with or without a series of pale olive spots along each side of the back, sides pale olive, speckled and spotted with dark brown, yellowish or greenish-white beneath, (for species *W. maximus* Boulenger, 1896 of subgenus *Lukefabasaurus subgen. nov*.).

In common with other Zonosaurinae the genus *Wellingtonsaurus gen. nov*. and both subgenera have the following diagnostic features: Nostril pierced between the rostral, the first labial, and two nasals; prefrontal shields present, no frontoparietals. Lower eyelid scaly. A strong lateral fold. Dorsal scales forming straight longitudinal and transverse series, ventrals hexagonal, in longitudinal series. Subdigital scales smooth or tubercular. Tongue nearly entirely covered with rhomboidal papillae.

Tracheloptychus Peters, 1854 is separated from other Zonosaurinae by the following suite of characters: Nostril pierced between the rostral, the first labial, and two nasals. Prefrontal and frontoparietal shields present. Lower eyelid scaly. No lateral fold on the body. Dorsal and ventral scales arranged quincuncially, laterals forming straight longitudinal and transverse series. Subdigital scales keeled. Tongue entirely covered with rhomboidal papillae.

Distribution: Madagascar.

Etymology: Named in honour of Cliff Ross Wellington, herpetologist and scientist of Woy Woy in New South Wales, Australia for his many contributions to Australian herpetology, and perhaps best known for co-authoring with Richard Wells of New South Wales, Australia a series of seminal taxonomic publications in the 1980's, lampooned at the time by others, but since shown in the fullness of time, to be largely correct.

Content: *Wellingtonsaurus laticaudatus* (Grandidier, 1869) (type species); *W. anelanelany* (Raselimanana, Raxworthy and Nussbaum, 2000); *W. karsteni* (Grandidier, 1869); *W. ornatus* (Gray, 1831); *W. quadrilineatus* (Grandidier, 1867); *W. trilineatus* (Angel, 1939).

SUBGENUS *HALLABYSAURUS SUBGEN. NOV.*

Type species: *Zonosaurus trilineatus* Angel, 1939.

Diagnosis: Lizards in the subgenus *Hallabysaurus subgen. nov.*

are most readily separated from the nominate subgenus *Wellingtonsaurus subgen. nov*. by dorsal patterning and colouration.

Hallabysaurus subgen. nov. are identified by a dorsal pattern consisting of one or other of:
A/ Blackish dorsally and two yellow stripes present, or:
B/ Blackish dorsally and one stripe present, either complete or broken into squares, in turn one or other of either a single central stripe being yellow and unbroken or a central stripe broken into irregular whitish squares.

By contrast, lizards within the subgenus *Wellingtonsaurus subgen. nov*. are identified by having one or other of:
A/ A reddish-brown dorsal colouration, often with a red flush to the chin and stripes equal in width along length of body, or:
B/ Dark brown with a uniform light brown head with stripes widest close to the head, becoming thinner towards the tail and which may become broken into light spots.

Distribution: Southern Madagascar.

Etymology: Named in honour of Fouad Mezah Hallaby of Park Orchards, Melbourne, Victoria, Australia for services to herpetology in Australia. As mechanic for the Snakebusters fleet of vehicles, he has provided a valuable service beyond the call of duty in order to keep the cars on the road, enabling the staff at Snakebusters, Australia's best reptile displays to continue educating Australians about reptiles, wildlife and conservation. This has been in a marketplace riddled with charlatans, thieves, police-protected criminals and the like who not only give out false information on a regular basis but in effect also work against the wildlife conservation ideal.

Without the so-called back room or background staff such as mechanics, the vital front-line efforts of Snakebusters would not continue.

Content: *Wellingtonsaurus* (*Hallabysaurus*) *trilineatus* (Angel, 1939) (type species); *W.* (*Hallabysaurus*) *quadrilineatus* (Grandidier, 1867).

SUBGENUS *WELLINGTONSAURUS SUBGEN. NOV.*

Type species: *Gerrhosaurus laticaudatus* Grandidier, 1869.

Diagnosis: Lizards in the subgenus *Hallabysaurus subgen. nov*. are most readily separated from the nominate subgenus *Wellingtonsaurus subgen. nov*. by dorsal patterning and colouration.

Hallabysaurus subgen. nov. are identified by a dorsal pattern consisting of one or other of:
A/ Blackish dorsally and two yellow stripes present, or:
B/ Blackish dorsally and one stripe present, either complete or broken into squares, in turn one or other of either a single central stripe being yellow and unbroken or a central stripe broken into irregular whitish squares.

By contrast, lizards within the subgenus *Wellingtonsaurus subgen. nov*. are identified by having one or other of:
A/ A reddish-brown dorsal colouration, often with a red flush to the chin and stripes equal in width along length of body, or:
B/ Dark brown with a uniform light brown head with stripes widest close to the head, becoming thinner towards the tail and which may become broken into light spots.

Distribution: Southern Madagascar.

Etymology: See for genus.

Content: *Wellingtonsaurus laticaudatus* (Grandidier, 1869) (type species); *W. anelanelany* (Raselimanana, Raxworthy and Nussbaum, 2000); *W. karsteni* (Grandidier, 1869); *W. ornatus* (Gray, 1831).

GENUS *TRACHELOPTYCHUS* PETERS, 1854

Type species: *Tracheloptychus madagascariensis* Peters, 1854.

Diagnosis: Nostril pierced between the rostral, the first labial, and two nasals. Prefrontal and frontoparietal shields present. Lower eyelid scaly. No lateral fold on the body. Dorsal and ventral scales arranged quincuncially, laterals forming straight longitudinal and transverse series. Subdigital scales keeled. Tongue entirely covered with rhomboidal papillae.

Distribution: Madagascar.

Content: *Tracheloptychus madagascariensis* Peters, 1854 (type species); *T. petersi* Grandidier, 1869.

TRIBE ZONOSAURINI *TRIBE NOV.*

Diagnosis: Ventral plates not forming straight transverse series; nostril pierced between 2 nasals, first labial and the rostral. Otherwise as for the family Gerrhosauridae, (adapted from Loveridge 1943).

Distribution: Madagascar.

Content: (Genera): *Zonosaurus* Boulenger, 1887 (type genus); *Hawkeswoodsaurus gen. nov*.; *Tracheloptychus* Peters, 1854; *Wellingtonsaurus gen. nov*.; *Wellssaurus gen. nov.*.

SUBTRIBE ZONOSAURINA *TRIBE NOV.*

Diagnosis: Ventral plates not forming straight transverse series; nostril pierced between 2 nasals, first labial and the rostral. Otherwise as for the family Gerrhosauridae, (adapted from Loveridge 1943).

Separated from the subtribe Tracheloptychina *subtribe nov*. by the absence of the following suite of characters: Nostril pierced between the rostral, the first labial, and two nasals. Prefrontal and frontoparietal shields present. Lower eyelid scaly. No lateral fold on the body. Dorsal and ventral scales arranged quincuncially, laterals forming straight longitudinal and transverse series. Subdigital scales keeled. Tongue entirely covered with rhomboidal papillae.

Distribution: Madagascar.

Content: (Genera): *Zonosaurus* Boulenger, 1887 (type genus); *Hawkeswoodsaurus gen. nov*.; *Wellingtonsaurus gen. nov*.; *Wellssaurus gen. nov.*.

SUBTRIBE TRACHELOPTYCHINA *TRIBE NOV.*

Diagnosis: Separated from the subtribe Zonosaurina *subtribe nov*. by the following suite of characters: Nostril pierced between the rostral, the first labial, and two nasals. Prefrontal and frontoparietal shields present. Lower eyelid scaly. No lateral fold on the body. Dorsal and ventral scales arranged quincuncially, laterals forming straight longitudinal and transverse series. Subdigital scales keeled. Tongue entirely covered with rhomboidal papillae.

In common with all Zonosaurini *tribe nov*. species within this subtribe have the following characters: Ventral plates not forming straight transverse series; nostril pierced between 2 nasals, first labial and the rostral. Otherwise as for the family Gerrhosauridae, (adapted from Loveridge 1943).

Distribution: Madagascar.

Content: (Genus): *Tracheloptychus* Peters, 1854 (monotypic for the type genus).

FAMILY CORDYLIDAE, MERTENS, 1937.

Type Genus: *Cordylus* Laurenti, 1768.

Diagnosis: Short, distally divided tongue covered in long papillae. Large square parietal plates present. Cranial osteoderms invariably present. Body scales large and in regular transverse rows or granular. Large rectangular ventral scales. Spiny or strongly keeled caudal scales arranged in whorls. Body often depressed. Femoral pores present, (adopted from Stanley *et al.* 2011).

Distribution: Southern and Eastern Africa.

Content: Subfamilies: Cordylinae Mertens, 1937; Platysaurinae Stanley *et al.,* 2011.

SUBFAMILY CORDYLINAE MERTENS, 1937.

Type genus: *Cordylus* Laurenti, 1768.

Diagnosis: Moderately dorso-ventrally flattened or serpentiform, dorsal, lateral and ventral osteoderms on trunk variable. Limbs fully formed or reduced. Caudal osteoderms often present (absent in *Chamaesaura fide* Lang, 1991). Enlarged lateral

spines at base of tail in limbed forms. Viviparous, (adopted from Stanley *et al.* 2011).

Distribution: Southern and south-eastern Africa.

Content: (Genera): *Cordylus* Laurenti, 1768 (type genus); *Chamaesaura* Schneider, 1801;

Cottonsaurus gen. nov.; *Hemicordylus* Smith, 1838; *Karusasaurus* Stanley *et al.,* 2011; *Namazonurus* Stanley *et al.,* 2011; *Ninsaurus gen. nov.*; *Ninurta* Stanley *et al.,* 2011; *Ouroborus* Stanley *et al.,* 2011; *Pseudocordylus* Smith, 1838; *Smaug* Stanley *et al.,* 2011.

GENUS *CORDYLUS* LAURENTI, 1768.

Type species: *Cordylus verus* Laurenti, 1768.

(Currently known as *Cordylus cordylus* (Linnaeus, 1758).

Diagnosis: Body moderately flattened in cross-section, small to medium-sized (maximum SVL 66-95 mm), robust. Limbs of moderate length, digits unreduced. Dorsal scales small and smooth to keeled in 16-30 transverse rows; caudal scales enlarged and spinose; head triangular; no occipital spines present. Lower eyelid without transparent disc. Tongue unpigmented. Osteoderms distributed across entire body. Viviparous, giving birth to (usually) 1-3 young, (adopted from Stanley *et al.* 2011).

Distribution: Southern Africa.

Content: *Cordylus cordylus* (Linnaeus, 1758) (type species); *Cordylus angolensis* (Bocage, 1895); *Cordylus aridus* Mouton and Van Wyk, 1994; *Cordylus beraduccii* Broadley and Branch, 2002; *Cordylus cloetei* Mouton and Van Wyk, 1994; *Cordylus imkeae* Mouton and Van Wyk, 1994; *Cordylus jonesii* (Boulenger, 1891); *Cordylus machadoi* Laurent, 1964; *Cordylus macropholis* (Boulenger, 1910); *Cordylus marunguensis* Greenbaum, Stanley, Kusamba, Moninga, Goldberg and Bursey, 2012; *Cordylus mclachlani* Mouton, 1986; *Cordylus meculae* Branch, Rödel and Marias, 2005; *Cordylus minor* Fitzsimons, 1943; *Cordylus niger* Cuvier, 1829; *Cordylus nyikae* Broadley and Mouton, 2000; *Cordylus oelofseni* Mouton and Van Wyk, 1990; *Cordylus rhodesianus* (Hewitt, 1933); *Cordylus rivae* (Boulenger, 1896); *Cordylus tasmani* Power, 1930; *Cordylus tropidosternum* (Cope, 1869); *Cordylus ukingensis* (Loveridge, 1932); *Cordylus vittifer* (Reichenow, 1887).

SUBGENUS *HULIMKACORDYLUS SUBGEN. NOV.*

Type species: *Zonurus tropidosternum* Cope, 1869.

Disgnosis: The lizards of the subgenus *Hulimkacordylus subgen. nov.* as described herein constitute a long well-known morphologically distinct grouping of lizards (e.g. Broadley 1971a, Stanley *et al.* 2011) tradionally placed within the genus *Cordylus*. On morphological evidence alone, I'd have placed them all within a new genus. However to date molecular evidence published has been somewhat ambiguous (e.g. Stanley *et al.* 2011, Pyron *et al.* 2013) and so I take the conservative position and place all within the new subgenus *Hulimkacordylus subgen. nov.* as defined below.
Species within *Hulimkacordylus subgen. nov.* are separated from other *Cordylus* species by the possession of one or other of the following three suites of characters:

1/ Lower eyelid opaque; supranasals absent; rostral in contact with frontonasal; occipital spines

present; occipitals present; nuchal scales moderate or large; nuchals comprising foremost, i.e. postoccipital, row, twice as large as those in second row; or:

2/ Lower eyelid opaque; supranasals absent; rostral in contact with frontonasal; occipital spines

present; occipitals present; nuchal scales moderate or large; nuchals comprising foremost, i.e. postoccipital, row, subequal, certainly not twice as large as those in second row; interparietal enclosed between two pairs of parietals; dorsals elongate, the two vertebral rows not enlarged or only scarcely enlarged; laterals unlike dorsals; or:

3/ Lower eyelid opaque; supranasals absent; rostral in contact with frontonasal only rarely, usually

separated from it; occipital spines absent; occipitals present; nuchal scales moderate or large; nuchals comprising foremost, i.e. postoccipital, row, subequal, certainly not twice as large as those in second row; interparietal on a line with anterior parietals and in contact with (or rarely separated from) the postfrontals; 11-14 gulars between angles of jaws; the two vertebral rows of dorsals enlarged; 14-18 longitudinal rows of dorsolaterals; 9-12 longitudinal rows of ventrals; gulars very large, a few anterior ones moderately enlarged followed by a zone of much smaller ones; dorsals in 16-19 transverse rows; ventrals smooth in 20-22 transverse rows.

Alternatively, species within either subgenus may be distinguished via the elimination of species in the other subgenus as defined in the diagnosis of each.

Distribution: East and southern Africa, in the region south from about Ethiopia.

Etymology: The first part of the genus name is in honour of Roman Hulimka of Park Orchards, Melbourne, Victoria, Australia for his magnificent services to herpetology in Australia in the period 2001 to 2013. As of 2013, the Polish immigrant to Australia (arriving shortly after World War 2), was 91 years of age and still going strong.

Content: *Cordylus* (*Hulimkacordylus*) *tropidosternum* (Cope, 1869) (type species); *C.* (*Hulimkacordylus*) *angolensis* (Bocage, 1895); *C.* (*Hulimkacordylus*) *beraduccii* Broadley and Branch, 2002; *C.* (*Hulimkacordylus*) *jonesii* (Boulenger, 1891); *C.* (*Hulimkacordylus*) *machadoi* Laurent, 1964; *C.* (*Hulimkacordylus*) *marunguensis* Greenbaum, Stanley, Kusamba, Moninga, Goldberg and Bursey, 2012; *C.* (*Hulimkacordylus*) *meculae* Branch, Rödel and Marias, 2005; *C.* (*Hulimkacordylus*) *nyikae* Broadley and Mouton, 2000; *C.* (*Hulimkacordylus*) *rhodesianus* (Hewitt, 1933); *C.* (*Hulimkacordylus*) *rivae* (Boulenger, 1896); *C.* (*Hulimkacordylus*) *ukingensis* (Loveridge, 1932); *C.* (*Hulimkacordylus*) *vittifer* (Reichenow, 1887).

SUBGENUS *CORDYLUS* LAURENTI, 1768.

Type species: *Cordylus verus* Laurenti, 1768.

(Currently known as *Cordylus cordylus* (Linnaeus, 1758).

Diagnosis: Species within the subgenus *Cordylus* are separated from the other subgenus *Hulimkacordylus subgen. nov.* by one or other of the following four suites of characters:

1/ Lower eyelid opaque; supranasals absent; rostral in contact with frontonasal only rarely, usually

separated from it; occipital spines absent; occipitals present; nuchal scales moderate or large; nuchals comprising foremost, i.e. postoccipital, row, subequal, certainly not twice as large as those in second row; interparietal enclosed between two pairs of parietals; dorsals squarish, the two vertebral rows much enlarged; laterals on flanks are slightly smaller than the dorsals; or:

2/ Lower eyelid opaque; supranasals absent; rostral is only rarely in contact with the frontonasal, but typically separated from it; occipital spines absent; occipitals present; nuchal scales moderate or large; nuchals comprising foremost, i.e. postoccipital, row, subequal, certainly not twice as large as those in the second row; interparietal enclosed between two pairs of parietals; dorsals squarish, the two vertebral rows are much enlarged; laterals like the dorsals as in laterals on flanks are just as large as the dorsals; rostral is two and a third to two and a quarter times as broad as high; median subocular not, or but rarely, descending to the lip; color above brown or olive with or without markings; or:

3/ Lower eyelid opaque; supranasals absent; rostral in contact with frontonasal only rarely, usually

separated from it; occipital spines absent; occipitals present; nuchal scales moderate or large; nuchals comprising foremost,

i.e. postoccipital, row, subequal, certainly not twice as large as those in second row; interparietal enclosed between two pairs of parietals; dorsals squarish, the two vertebral rows much enlarged; laterals like dorsals; laterals on flanks just as large as the dorsals; rostral, two to two and a quarter times as broad as high; median subocular descending to the lip between fourth and fifth labials; color above uniformly jet black; head shields smooth or slightly rugose; nasal moderate,

not swollen or only slightly swollen; temporals are large, rarely keeled; the two vertebral rows of dorsals enlarged; femoral pores number 5-9; or:

4/ Lower eyelid opaque; supranasals absent; rostral in contact with frontonasal only rarely, usually

separated from it; occipital spines absent; occipitals present; nuchal scales moderate or large; nuchals comprising foremost, i.e. postoccipital, row, subequal, certainly not twice as large as those in second row; interparietal on a line with anterior parietals and in contact with the postfrontals; 11-14 gulars between angles of jaws; the two vertebral rows of dorsals enlarged; 14-18 longitudinal rows of dorsolaterals; 9-12 longitudinal rows of ventrals; gulars very large, a few anterior ones moderately enlarged followed by a zone of much smaller ones; dorsals in 16-19 transverse rows; ventrals smooth in 20-22 transverse rows.

Alternatively, species within either subgenus may be distinguished via the elimination of species in the other subgenus as defined in the diagnosis of each.

Distribution: Southern and eastern Africa.

Content: Distribution: Southern Africa.

Content: *Cordylus* (*Cordylus*) *cordylus* (Linnaeus, 1758) (type species); *C.* (*Cordylus*) *aridus* Mouton and Van Wyk, 1994; *C.* (*Cordylus*) *cloetei* Mouton and Van Wyk, 1994; *C.* (*Cordylus*) *imkeae* Mouton and Van Wyk, 1994; *C.* (*Cordylus*) *macropholis* (Boulenger, 1910); *C.* (*Cordylus*) *mclachlani* Mouton, 1986; *C.* (*Cordylus*) *minor* Fitzsimons, 1943; *C.* (*Cordylus*) *niger* Cuvier, 1829; *C.* (*Cordylus*) *oelofseni* Mouton and Van Wyk, 1990; *C.* (*Cordylus*) *tasmani* Power, 1930.

GENUS *HEMICORDYLUS* SMITH, 1838.

***Type species*: *Cordylus* (*Hemicordylus*) *capensis* Smith, 1838.**

Diagnosis: Body gracile, somewhat flattened in cross-section, small-sized (maximum SVL 76 mm). Limbs long, digits long, slender, unreduced. Dorsal scales large and separated by granules; lateral body scales granular. Caudal scales keeled but not spinose; occipital spines not present. Tongue is unpigmented, Osteoderms restricted to tail and dorsum of head. Melanistic and sexually dichromatic in some populations. Viviparous, usually giving birth to 1-3 young, (modified from Stanley *et al.* 2011).

Distribution: Cape Fold Mountains of southwestern South Africa.

Content: *Hemicordylus capensis* (Smith, 1838); *H. nebulosus* (Mouton and van Wyk 1995).

GENUS *NINURTA* STANLEY *ET AL.* 2011.

Type species: *Zonurus coeruleopunctatus* Hewitt and Methuen 1913.

Diagnosis: Body gracile, limbs elongate, digits unreduced. Medium-sized (maximum snout-vent-length of 82 mm). No occipital spines present, granular scales on nape. Keeled dorsal scales arranged in 40-46 transverse and 20-30 longitudinal rows. Spinose tail-whorls lacking. A band of granular lateral scales present between the dorsals and ventrals. Osteoderms widely distributed across body. Enamel blue spots on head and dorsum in eastern populations. Breeding males develop a yellow-to-orange gular patch. Viviparous, usually giving birth to 3-4 young (adapted from Stanley *et al.* 2011).

Distribution: The southern part of South Africa.

Content: *Ninurta coeruleopunctatus* (Hewitt and Methuen 1913) (monotypic for the genus).

GENUS *PSEUDOCORDYLUS* SMITH, 1838.

Type species: *Cordylus* (*Pseudocordylus*) *montanus* Smith, 1838.

Currently known as *Pseudocordylus microlepidotus* (Cuvier, 1829).

Diagnosis: Body subcylindrical in cross-section, medium to very large-bodied (maximum SVL 76-145 mm), robust. Limbs long, digits unreduced. Dorsal scales granular or larger scales separated by granules, tail spiny; occipital spines not present. Tongue unpigmented. Osteoderms restricted to tail and dorsum of head. Sexually dichromatic in some populations. Viviparous, usually giving birth to 1-7 young.

The species described as "*Pseudocordylus langi* Loveridge, 1944", while clearly related to the other species within *Pseudocordylus* Smith, 1838, is sufficiently divergent to warrant being placed in its own genus, which is done herein. Molecular phylogenies published have confirmed the morphological evidence of divergence of the taxa (Stanley *et al.* 2011, Pyron *et al.* 2013).

The monotypic genus *Ninsaurus gen. nov.* (for the species described as "*Pseudocordylus langi* Loveridge, 1944") and until now placed within *Pseudocordylus* is separated from *Pseudocordylus* by the following suite of characters:

Flanks entirely covered with minute granules, or, at most some widely separated, small, subcorneal tubercles differing greatly from the enlarged dorsals; back, or vertebral region only, is covered with feebly keeled, or smooth, dorsals; slightly enlarged dorsals form 6-8 irregular, ill-defined, longitudinal rows in the vertebral region; ventrals in 10 longitudinal rows; there are 5-6 enlarged temporals.

Distribution: Drakensberg and Cape Fold Mountain regions of South Africa, Swaziland and Lesotho.

Content: *P. microlepidotus* (Cuvier, 1829) (type species); *P. melanotus* (Smith, 1838); *P. spinosus* Fitzsimons, 1947; *P. subviridis* (Smith, 1838); *P. transvaalensis* FitzSimons, 1943.

GENUS *NINSAURUS GEN. NOV.*

Type species: *Pseudocordylus langi* Loveridge, 1944.

Diagnosis: The monotypic genus *Ninsaurus gen. nov.* (for the species described as "*Pseudocordylus langi* Loveridge, 1944") and until now placed within *Pseudocordylus* is separated from *Pseudocordylus* by the following suite of characters:

Flanks entirely covered with minute granules or at most some widely separated, small, subcorneal tubercles differing greatly from the enlarged dorsals; back, or vertebral region only, is covered with feebly keeled, or smooth, dorsals; slightly enlarged dorsals form 6-8 irregular, ill-defined, longitudinal rows in the vertebral region; ventrals in 10 longitudinal rows; there are 5-6 enlarged temporals.

In common with *Pseudocordylus* Smith 1838, *Ninsaurus gen. nov.* has the following characteristics: Body subcylindrical in cross-section, medium to very large-bodied (maximum SVL 76-145 mm), robust. Limbs long, digits unreduced. Dorsal scales granular or larger scales separated by granules, tail spiny; occipital spines not present. Tongue unpigmented. Osteoderms restricted to tail and dorsum of head. Sexually dichromatic in some populations. Viviparous, usually giving birth to 1-7 young.

The species described as *Pseudocordylus langi* Loveridge, 1944, while clearly related to the other species within *Pseudocordylus* Smith, 1838, is sufficiently divergent to warrant being placed in its own genus, which is done herein. Molecular phylogenies published have confirmed the morphological evidence of divergence of the taxa (Stanley *et al.* 2011, Pyron *et al.* 2013).

In turn the genus *Pseudocordylus* Smith, 1838 (and *Ninsaurus gen. nov.*) are separated from all other Cordylinae by the following suite of characters referred to above: Body subcylindrical in cross-section, medium to very large-bodied (maximum SVL 76-145 mm), robust. Limbs long, digits

unreduced. Dorsal scales granular or larger scales separated by granules, tail spiny; occipital spines not present. Tongue unpigmented. Osteoderms restricted to tail and dorsum of head. Sexually dichromatic in some populations. Viviparous, usually giving birth to 1-7 young (adapted from Stanley *et al.* (2011).

Distribution: Drakensberg of Basutoland to eastern Cape Province in Southern Africa.

Etymology: Named in honour of Dara Nin, of Ringwood, Victoria, Australia in recognition of his valuable conservation and education work, over many years with Snakebusters, Australia's best live reptile shows.

These are the only hands on reptile shows in Australia that actually let people hold the animals. In spite of howls of protest from inexperienced imitators, Dara and many other educators strongly believe that hands-on education that allows people to learn by handling the animals is vastly superior to the hands-off approach, preferred by the government regulators, Melbourne Zoo (their own dysfunctional business enterprise) and other displayers they have licenced, all of whom have repeatedly and publicly alleged that there is absolutely no educational value whatsoever in allowing people to hold the animals at wildlife displays.

For the record, we are here talking about harmless non-venomous species such as pythons, baby crocodiles, tree frogs and freshwater turtles. Snakebusters is alone in the reptile display and venomous snake show business to have been operating for decades and with an unmatched perfect safety record. Within Australia, only Snakebusters have the expertise to have surgically devenomized (venomoid snakes) for the welfare of the snakes (no sticks and tongs are ever used to handle them) and to remove any element of risk of a fatal or near fatal snakebite at any of our events. By the way, the relevant snakes have been tested (by biting myself and not envenomating me) and cleared at 100 per cent safe by veterinary surgeon Dr Richard Funk as being totally safe.

Furthermore to confirm the obvious fact that the venomoid snakes are safe, in the face of repeated reckless false claims by inexperienced rivals and the government regulator, that competes against Snakebusters, stating the snakes have regenerated venom (physically impossible), Dara Nin and others have taken bites from the relevant snakes to prove they are totally safe. This includes species such as inland Taipans (*Parademansia micolepidota*), Death Adders (*Acanthophis spp.*) and so on.

Content: *Ninsaurus langi* (Loveridge, 1944).

GENUS *CHAMAESAURA* SCHNEIDER, 1801.

Type species: *Lacerta anguina* Linnaeus, 1758.

Currently known as *Chamaesaura anguina* Linnaeus, 1758.

Diagnosis: Body slender and attenuate with greatly reduced limbs and digits, maximum SVL 140-170 mm. Tail extremely elongate (3-4 times SVL). Dorsal scales strongly keeled and arranged in regular rows; no occipital spines present. Osteoderms limited to dorsum of head. Viviparous, usually giving birth to 6-12 young, (adapted from Stanley *et al.* (2011).

Distribution: Southern and eastern Africa from South Africa to Angola, the Democratic Republic of Congo and Tanzania.

Content: *Chamaesaura anguina* (Linnaeus, 1758) (type species); *C. aenea* (Fitzinger, 1843); *C. macrolepis* (Cope, 1862); *C. miopropus* (Boulenger, 1894); *C. tenuior* Günther, 1895.

GENUS *SMAUG* STANLEY *ET AL.* 2011.

Type species: *Cordylus giganteus* Smith, 1844.

Diagnosis: The genus *Smaug* as defined herein is monotypic for the type species only.

All other species placed in this genus by Stanley *et al.* 2011 have herein been placed in a new genus *Cottonsaurus gen. nov.*.

The species within *Smaug* (*S. giganteus*) is defined as follows: Body subcylindrical in cross-section, large to very large (maximum SVL 112-205 mm), robust. Limbs of moderate length, digits unreduced. Dorsal and caudal scales enlarged and spinose; occipital spines greatly enlarged. Nasal scales not in contact with one another. Frontonasal scale in broad contact with the rostral scale. Median subocular not reaching the lip; occipital spines enormous; scales beneath forelimbs smooth; caudal whorls subequal, gradually diminishing towards the tip of the tail;tongue partly or fully pigmented. Osteoderms distributed across entire body. Viviparous, usually giving birth to 1-6 young.

The following traits separate *Smaug* Stanley *et al.* 2011 from *Cottonsaurus gen. nov.*:
Median subocular not reaching the lip; occipital spines are enormous; scales beneath the forelimbs are smooth; caudal whorls subequal, gradually diminishing towards the tip of the tail; whereas in *Cottonsaurus gen. nov.* the condition seen is: Median subocular reaches lip between two labials; occipital spines are short; scales beneath the forelimbs are keeled; large caudal whorls separated by smaller ones.

Distribution: The northeastern part of South Africa, occurring most frequently on the steppes of the eastern Free State.

Content: *Smaug giganteus* (Smith, 1844) (monotypic).

GENUS *COTTONSAURUS GEN. NOV.*

Type species: *Zonurus warreni* Boulenger, 1908.

Diagnosis: The genus *Cottonsaurus gen. nov.* are separated from other Cordylinae by the following suite of characters: Median subocular reaches lip between two labials; occipital spines are present and are short; scales beneath the forelimbs are keeled; large caudal whorls separated by smaller ones. Rostral is in contact with the frontonasal; Lower eyelid is opaque; supranasals absent.

The following traits separate *Smaug* Stanley *et al.* 2011 from *Cottonsaurus gen. nov.*:
In *Smaug*, the median subocular does not reach the lip; occipital spines are enormous; scales beneath the forelimbs are smooth; caudal whorls are subequal, gradually diminishing towards the tip of the tail; whereas by contrast, in *Cottonsaurus gen. nov.* the condition seen is: The median subocular reaches the lip between two labials; occipital spines are short; scales beneath the forelimbs are keeled; large caudal whorls are separated by smaller ones.

Both genera, *Smaug* Stanley *et al.* 2011 and *Cottonsaurus gen. nov.* are not only sufficiently divergent to warrant separation on a molecular basis (see Stanley *et al.* 2011 and Pyron *et al.* 2013), but the species within each genus are also sufficiently divergent to be placed separately (in two genera) on the basis of morphology (see for example Loveridge, 1944). Both genera are also of significantly different habits. While placing all relevant species in the genus *Smaug*, Stanley *et al.* (2011) did also note these obvious differences, when they wrote:

"While *S. giganteus* is entirely terricolous, members of the *S. warreni* complex prefer deep, horizontal crevices in shaded rock outcrops."

Distribution: North-east Republic of South Africa (from Ubombo Mountains in Zululand trough Transvaal Drakensberg, Soutpansberg), Swaziland, Zimbabwe, Botswana and Mozambique.

Etymology: Named in honour of Thomas Cotton, of Ringwood, Victoria, Australia in recognition of his valuable conservation and education work, over almost a decade with Snakebusters, Australia's best live reptile shows. These are the only hands on reptile shows in Australia that actually let people hold the animals. In spite of howls of protest from inexperienced imitators, Tom and many other educators strongly believe that hands-on education that allows people to learn by handling the animals is vastly superior to the hands-off approach, preferred by the government regulators, Melbourne Zoo (their own dysfunctional business enterprise) and other displayers they

have licenced. All of these people have repeatedly and publicly alleged that there is absolutely no educational value whatsoever in allowing people to hold the animals at wildlife displays.

For the record, we are here talking about harmless non-venomous species such as pythons, baby crocodiles, tree frogs and freshwater turtles. Snakebusters is alone in the reptile display and venomous snake show business to have been operating for decades and with an unmatched perfect safety record. Within Australia, only Snakebusters have the expertise to have surgically devenomized (venomoid snakes) for the welfare of the snakes (no sticks and tongs used to handle them) and to remove any element of risk of a fatal or near fatal snakebite at any of our events. All snakes have been tested as safe many times. They have also been certified and cleared by veterinary surgeon Dr Richard Funk as being totally safe and without venom.

Furthermore to confirm the obvious fact that the venomoid snakes are safe, in the face of repeated reckless false claims by inexperienced rivals and the government regulator, that competes against Snakebusters, stating the snakes have regenerated venom (physically impossible), Cotton and others have taken bites from the relevant snakes to prove they are totally safe. This includes species such as inland Taipans (*Parademansia micolepidota*), Death Adders (*Acanthophis spp.*) and so on.

Content: *Cottonsaurus warreni* (Boulenger, 1908) (type species); *C. breyeri* (Van Dam), 1921; *C. mossambicus* (Fitzsimons, 1958); *C. regius* (Broadley, 1962); *C. vandami* (Fitzsimons, 1930).

GENUS *NAMAZONURUS STANLEY ET AL*. 2011

Type species: *Zonurus pustulatus* Peters, 1862.

Diagnosis: Body flattened in cross-section, small-sized (maximum SVL 75-82 mm), robust. Limbs of moderate length, digits unreduced. Supernasals enlarged and tubular. Dorsal scales small and smooth to keeled in 22-32 transverse rows; caudal scales enlarged and spinose; head triangular; no occipital spines present. Lower eyelid with or without transparent disc. Tongue unpigmented. Osteoderms distributed across entire body. Viviparous, usually giving birth to 2-4 young, (adapted from Stanley *et al.* 2011).

While all five described species form a well-defined genus, the three morphologically distinct clades within the genus, do warrant recognition at the subgenus level and this is done below according to the Zoological Code (Ride *et al.* 1999).

Distribution: Namaqualand, South Africa and parts of southern and central Namibia.

Content: *Namazonurus pustulatus* (Peters, 1862) (type species); *N. namaquensis* (Methuen and Hewitt, 1914); *N. peersi* (Hewitt 1932); *N. campbelli* (Fitzsimons, 1938); *N. lawrenci* (Fitzsimons, 1939).

SUBGENUS *ATIKAEA SUBGEN. NOV.*

Type species: *Zonurus peersi* Hewitt, 1932.

Diagnosis: Lizards of the subgenus *Atikaea subgen. nov.* are separated from congeners in the other subgenera by the following suite of characters being one or other of:

1/ Lower eyelid opaque; supranasals absent; rostral not in contact with the frontonasal only rarely, but more commonly separated from it; occipital spines absent. Occipitals present; nuchal scales moderate or large. Nuchals comprising foremost, i.e. postoccipital, row, subequal, certainly not twice as large as those in second row; interparietal enclosed between two pairs of parietals; dorsals elongate, the two vertebral rows are either not enlarged or scarcely enlarged; laterals unlike dorsals; head much depressed; temporals large; gulars moderate to large; posterior parietals subequal to the anterior; dorsals in 24 transverse rows; ventrals in 12 longitudinal rows (*N. lawrenci*), or:

2/ Lower eyelid opaque; supranasals absent; rostral in contact with frontonasal only rarely, but usually is separated from it; occipital spines absent; occipitals present; nuchal scales moderate or large; nuchals comprising foremost, i.e. postoccipital, row, subequal, certainly not twice as large as those in second row; interparietal enclosed between two pairs of parietals; dorsals squarish, the two vertebral rows much enlarged; laterals like dorsals; laterals on flanks just as large as the dorsals; rostral is two to two and a half times as broad as high; median subocular descending to the lip between fourth and fifth labials; color above uniformly jet black; head shields very strongly rugose; nasal large, very strongly swollen; temporals very large, strongly keeled; vertebral rows of dorsals not differentiated from adjacent dorsals; femoral pores 8-12 (*N. peersi*).

Distribution: Little Namaqualand, Republic of South Africa.

Etymology: Named in honour of Atika Campbell, of Ringwood, Victoria, Australia in recognition of her valuable conservation and education work, over many years with Snakebusters, Australia's best live reptile shows. Snakebusters are only hands on reptile shows in Australia that actually let people hold the animals. In spite of howls of protest from inexperienced imitators, Atika and many other educators strongly believe that hands-on education that allows people to learn by handling the animals is vastly superior to the hands-off approach, preferred by the government regulators, Melbourne Zoo (the government's own dysfunctional business enterprise) and other displayers they have licenced. These others all have repeatedly and publicly alleged that there is absolutely no educational value whatsoever in allowing people to hold the animals at wildlife displays.

For the record, we are here talking about harmless non-venomous species such as pythons, baby crocodiles, tree frogs and freshwater turtles. Snakebusters is alone in the reptile display and venomous snake show business to have been operating for decades and with an unmatched perfect safety record. Within Australia, only Snakebusters have the expertise to have surgically devenomized (venomoid snakes) for the welfare of the snakes (no sticks and tongs used to handle them) and to remove any element of risk of a fatal or near fatal snakebite at any of our events. All snakes have been tested as safe and cleared by veterinary surgeon Dr Richard Funk as being totally safe and not having any venom.

Furthermore to confirm the obvious fact that the venomoid snakes are safe, in the face of repeated reckless false claims by inexperienced rivals and the government regulator, that competes against Snakebusters, stating the snakes have regenerated venom (physically impossible), Snakebusters staff have taken bites from the relevant snakes to prove they are totally safe. This includes species such as inland Taipans (*Parademansia micolepidota*), Death Adders (*Acanthophis spp.*) and so on.

Content: *Namazonurus* (*Atikaea*) *peersi* (Hewitt, 1932) (type species); *N.* (*Atikaea*) *lawrenci* (Fitzsimons, 1939).

SUBGENUS *SLATTERYSAURUS SUBGEN. NOV.*

Type species: *Zonurus namaquensis* Methuen and Hewitt, 1914.

Diagnosis: This monotypic subgenus is readily identified and separated from the other subgenera of *Namazonurus* by the following unique suite of characters:
Head much depressed; head shields rugose except for two hindmost supraoculars; rostral rarely in contact with, usually separated from, the frontonasal, which is shorter than broad; nostril pierced in the lower centre of a very large nasal which is much swollen; a loreal; a preocular; median subocular not descending to the lip; prefrontals forming a suture; postfrontals as long as broad; interparietal on a line with the anterior parietals, in contact with the postfrontals; posterior parietals slightly larger than the anterior; 6 keeled occipitals; temporals moderate, rugose, keeled, without spines, but those of hind row pointed, projecting over ear; sides of neck with keeled, spinose

scales; gulars small, the anterior irregularly enlarged, the median slightly imbricate, smooth, or the lateral feebly keeled; collar scales large, only the lateral lanceolate and mucronate.

Dorsals elongate, scarcely rugose, moderately keeled, neither mucronate nor serrate, those on the vertebral line regular or irregular; laterals like dorsals but more spiny, keeled, serrate, spinose; ventrals quadrangular, smooth, not or but slightly imbricate; scales below forelimbs keeled, below hind limbs smooth; tail with whorls of large, striate, strongly keeled, serrate, spinose scales above and below, the lateral spines longest.

Colour: Above, head brown, heavily spotted, a dark streak from nostril through eye to ear or forearm, a narrower streak from posterior corner of eye along upper edge of temporals, lower labials edged with darker colour; back light to dark chestnut brown variegated with darker brown; two dark brown lateral bands sometimes present. Below, greyish white to light muddy brown; tail is light brown.

Distribution: Only known from the vicinity of the Great Karasberg district, Namibia, south-west Africa.

Etymology: Named in honour of Mr. Paul Slattery, of Park Orchards, Melbourne, Victoria, Australia in recognition of his services for probity in local government in Australia.

Content: *Namazonurus* (*Slatterysaurus*) *namaquensis* (Methuen and Hewitt, 1914).

SUBGENUS *NAMAZONURUS STANLEY ET. AL*. 2011

Type species: *Zonurus pustulatus* Peters, 1862.

Diagnosis: The species in the nominate subgenus *Namazonurus* are separated from the two other subgenera by the following suite of characters, being one or other of:

1/ Lower eyelid opaque; supranasals absent; head much depressed; head shields rugose; rostral separated from the frontonasal; nostril pierced in the lower centre of a large nasal which is swollen; a loreal; a preocular; median subocular not descending to the lip; fifth upper labial smallest, fifth not higher than others; prefrontals forming a suture; temporals moderate, rugose, keeled, without spines; gulars small, almost granular, ventrals in 14 longitudinal rows, dorsolaterals in 24-32 longitudinal rows and 30-32 transverse rows, 16-21 gulars between angles of jaws; vertebral rows of dorsals not enlarged; 14-29 longitudinal rows of ventrals; interparietal on a line with anterior parietals and usually in contact with the postfrontals; nuchals comprising foremost, i.e. postoccipital, row, subequal, certainly not twice as large as those in second row; occipitals present; nuchal scales moderate or large. (*N. pustulatus*) or:

2/ Head much depressed; head shields rugose; rostral separated from the frontonasal, which is longer than broad or as long as broad; nostril directed upwards and outwards in a nasal which is much swollen and slightly tubular; supranasals absent; lower eyelid with a semitransparent disk; prefrontals forming a suture; postfrontals as long as broad; inter parietal enclosed between 2 pairs of parietals; posterior parietals slightly larger than the anterior; 6 keeled, rugose occipitals; temporals moderate, rugose, keeled, without spines, but those of hind row obtusely pointed and flattened, projecting over ear; sides of neck with keeled, spinose scales; gulars small, the anterior irregularly enlarged, the median slightly imbricate, smooth, or the lateral feebly keeled; collar scales large, only the lateral lanceolate and mucronate. Dorsals elongate, scarcely rugose, obtusely keeled, neither mucronate nor serrate, those on the vertebral line irregular; laterals like dorsals but more spiny, keeled, serrate, spinose; ventrals quadrangular, smooth, slightly imbricate; scales below forelimbs keeled; below hind limbs smooth, serrately pointed, imbricate; tail with whorls of large, striate, strongly keeled, serrate, spinose scales above and below, the lateral spines longest (*N. campbelli*).

Distribution: Namibia, south-west Africa.

Content: *Namazonurus* (*Namazonurus*) *pustulatus* (Peters, 1862) (type species); *N.* (*Namazonurus*) *campbelli* (Fitzsimons, 1938).

GENUS *KARUSASAURUS* STANLEY *ET AL.* 2011.

Type species: *Cordylus polyzonus* Smith, 1838.

Diagnosis: Body flattened in cross-section, large-sized (maximum SVL 113-127 mm), robust. Limbs of moderate length, digits unreduced. Dorsal scales small and smooth to keeled in 38-46 transverse rows; caudal scales enlarged and spinose; no occipital spines present. Lower eyelid with transparent disc. Tongue unpigmented. Osteoderms distributed across entire body. Viviparous, usually giving birth to 2-4 young (adapted from Stanley *et al.* 2011).

Distribution: Throughout semi-arid areas of South Africa and southern Namibia.

Content: *Karusasaurus polyzonus* (Smith, 1838) (type species), *K. jordani* (Parker, 1936).

GENUS *OUROBORUS* STANLEY *ET AL*. 2011.

Type species: *Cordylus cataphractus* Boie, 1828.

Diagnosis: Body flattened to subcylindrical in cross-section, medium to large-bodied (maximum SVL 105 mm), robust. Limbs of moderate length, digits unreduced. Dorsal and scales greatly enlarged (in 15-17 transverse rows) and spinose, caudal scales forming large spines; six large keeled occipitals. Tongue darkly pigmented. Viviparous, giving birth to 1-2 young.

Distribution: Semi-arid regions of the western portions of the Western and Northern Cape provinces of South Africa, (adapted from Stanley *et al.* 2011).

Content: *Ouroburus cataphractus* (Boie, 1828) (monotypic).

TRIBE CORDYLINI LANG, 1989.

Terminal taxon: *Cordylus verus* Laurenti, 1768.

(Currently known as *Cordylus cordylus* (Linnaeus, 1758).

Diagnosis: The tribe is defined and diagnosed as consisting of each of the three component genera, listed below, namely *Cordylus* Laurenti, 1768 (the type genus), *Hemicordylus* Smith, 1838 and *Ninurta* Stanley *et al.,* 2011.

As part of the formal redescription of this tribe, the diagnosis for it is given as being one or other of each of the following three genera diagnoses, which are:

1/ *Cordylus* Laurenti, 1768 is defined as follows: Body moderately flattened in cross-section, small to medium-sized (maximum SVL 66-95 mm), robust. Limbs of moderate length, digits unreduced. Dorsal scales small and smooth to keeled in 16-30 transverse rows; caudal scales enlarged and spinose; head triangular; no occipital spines present. Lower eyelid without transparent disc. Tongue unpigmented. Osteoderms distributed across entire body. Viviparous, giving birth to (usually) 1-3 young; or:

2/ *Hemicordylus* Smith, 1838 is defined as follows: Body gracile, somewhat flattened in cross-section, small-sized (maximum SVL 76 mm). Limbs long, digits long, slender, unreduced. Dorsal scales large and separated by granules; lateral body scales granular. Caudal scales keeled but not spinose; occipital spines not present. Tongue is unpigmented, Osteoderms restricted to tail and dorsum of head. Melanistic and sexually dichromatic in some populations. Viviparous, usually giving birth to 1-3 young; or:

3/ *Ninurta* Stanley *et al.,* 2011 is defined as follows: Body gracile, limbs elongate, digits unreduced. Medium-sized (maximum snout-vent-length of 82 mm). No occipital spines present, granular scales on nape. Keeled dorsal scales arranged in 40-46 transverse and 20-30 longitudinal rows. Spinose tail-whorls lacking. A band of granular lateral scales present between the dorsals and ventrals. Osteoderms widely distributed across body. Enamel blue spots on head and dorsum in eastern populations. Breeding males develop a yellow-to-orange gular patch. Viviparous, usually giving birth to 3-4 young (all three generic diagnoses herein being adapted from Stanley *et al.* 2011).

Distribution: Southern and eastern Africa, south from Ethiopia.

Content: *Cordylus* Laurenti, 1768 (type genus); *Hemicordylus* Smith, 1838; *Ninurta* Stanley *et al.,* 2011.

TRIBE COTTONSAURINI *TRIBE NOV.*

Terminal taxon: *Zonurus warreni* Boulenger, 1908.

Diagnosis: The tribe *Cottonsaurini tribe nov.* is defined as the content of the five component genera, namely *Cottonsaurus gen. nov.* (the type genus), *Chamaesaura* Schneider, 1801, *Ninsaurus gen. nov.*, *Pseudocordylus* Smith, 1838 and *Smaug* Stanley *et al.,* 2011.

The diagnosis for the tribe is best done by defining each of the component genera individually, these being one or other of the following five:

1/ The genus *Cottonsaurus gen. nov.* are separated from other Cordylinae by the following suite of characters: Median subocular reaches lip between two labials; occipital spines are present and are short; scales beneath the forelimbs are keeled; large caudal whorls separated by smaller ones. Rostral is in contact with the frontonasal; Lower eyelid is opaque; supranasals absent.

The following traits separate *Smaug* Stanley *et al.* 2011 from *Cottonsaurus gen. nov.*:
In *Smaug*, the median subocular does not reach the lip; occipital spines are enormous; scales beneath the forelimbs are smooth; caudal whorls are subequal, gradually diminishing towards the tip of the tail; whereas by contrast, in *Cottonsaurus gen. nov.* the condition seen is: The median subocular reaches the lip between two labials; occipital spines are short; scales beneath the forelimbs are keeled; large caudal whorls are separated by smaller ones.

2/ *Smaug* Stanley *et al.,* 2011 are separated from other Cordylinae by the following suite of characters: Body subcylindrical in cross-section, large to very large (maximum SVL 112-205 mm), robust. Limbs of moderate length, digits unreduced. Dorsal and caudal scales enlarged and spinose; occipital spines greatly enlarged. Nasal scales not in contact with one another. Frontonasal scale in broad contact with the rostral scale. Median subocular not reaching the lip; occipital spines enormous; scales beneath forelimbs smooth; caudal whorls subequal, gradually diminishing towards the tip of the tail;tongue partly or fully pigmented. Osteoderms distributed across entire body. Viviparous, usually giving birth to 1-6 young.
The following traits separate *Smaug* Stanley *et al.* 2011 from *Cottonsaurus gen. nov.*:
Median subocular not reaching the lip; occipital spines are enormous; scales beneath the forelimbs are smooth; caudal whorls subequal, gradually diminishing towards the tip of the tail; whereas in *Cottonsaurus gen. nov.* the condition seen is: Median subocular reaches lip between two labials; occipital spines are short; scales beneath the forelimbs are keeled; large caudal whorls separated by smaller ones.

3/ *Chamaesaura* Schneider, 1801 are separated from other Cordylinae by the following suite of characters: Body slender and attenuate with greatly reduced limbs and digits, maximum SVL 140-170 mm. Tail extremely elongate (3-4 times SVL). Dorsal scales strongly keeled and arranged in regular rows; no occipital spines present. Osteoderms limited to dorsum of head. Viviparous, usually giving birth to 6-12 young, (adapted from Stanley *et al.* 2011).

4/ *Pseudocordylus* Smith, 1838 are separated from other Cordylinae by the following suite of characters: Body subcylindrical in cross-section, medium to very large-bodied (maximum SVL 76-145 mm), robust. Limbs long, digits unreduced. Dorsal scales granular or larger scales separated by granules, tail spiny; occipital spines not present. Tongue unpigmented. Osteoderms restricted to tail and dorsum of head. Sexually dichromatic in some populations. Viviparous, usually giving birth to 1-7 young.

The monotypic genus *Ninsaurus gen. nov.* (for the species described as "*Pseudocordylus langi* Loveridge, 1944") and until now placed within *Pseudocordylus* is separated from *Pseudocordylus* by the following suite of characters: Flanks entirely covered with minute granules or at most some widely separated, small, subcorneal tubercles differing greatly from the enlarged dorsals; back, or vertebral region only, is covered with feebly keeled, or smooth, dorsals; slightly enlarged dorsals form 6-8 irregular, ill-defined, longitudinal rows in the vertebral region; ventrals in 10 longitudinal rows; there are 5-6 enlarged temporals.

5/ *Ninsaurus gen. nov.* are separated from other Cordylinae by the following suite of characters: Flanks entirely covered with minute granules or at most some widely separated, small, subcorneal tubercles differing greatly from the enlarged dorsals; back, or vertebral region only, is covered with feebly keeled, or smooth, dorsals; slightly enlarged dorsals form 6-8 irregular, ill-defined, longitudinal rows in the vertebral region; ventrals in 10 longitudinal rows; there are 5-6 enlarged temporals.

In common with *Pseudocordylus* Smith 1838, *Ninsaurus gen. nov.* has the following characteristics: Body subcylindrical in cross-section, medium to very large-bodied (maximum SVL 76-145 mm), robust. Limbs long, digits unreduced. Dorsal scales granular or larger scales separated by granules, tail spiny; occipital spines not present. Tongue unpigmented. Osteoderms restricted to tail and dorsum of head. Sexually dichromatic in some populations. Viviparous, usually giving birth to 1-7 young.

Distribution: Southern and Eastern Africa.

Content: *Cottonsaurus gen. nov.* (type genus); *Chamaesaura* Schneider, 1801; *Ninsaurus gen. nov.*; *Pseudocordylus* Smith, 1838; *Smaug* Stanley *et al.,* 2011.

TRIBE NAMAZONURINI *TRIBE NOV.*

Terminal taxon: *Zonurus pustulatus* Peters, 1862.

Diagnosis: The tribe is monotypic for the genus *Namazonurus* Stanley *et al.* 2011, including the three subgenera defined within. Species within the tribe are diagnosed as follows: Body flattened in cross-section, small-sized (maximum SVL 75-82 mm), robust. Limbs of moderate length, digits unreduced. Supernasals enlarged and tubular. Dorsal scales small and smooth to keeled in 22-32 transverse rows; caudal scales enlarged and spinose; head triangular; no occipital spines present. Lower eyelid with or without transparent disc. Tongue unpigmented. Osteoderms distributed across entire body. Viviparous, usually giving birth to 2-4 young, (adapted from Stanley *et al.* 2011).

Distribution: Namaqualand in north-west South Africa and parts of southern and central Namibia.

Content: *Namazonurus* Stanley *et al.* 2011 (monotypic).

TRIBE KARUSASAURINI *TRIBE NOV.*

Terminal taxon: *Cordylus polyzonus* Smith, 1838.

Diagnosis: The tribe Karusasaurini *tribe nov.* is defined as consisting of the two component genera, namely *Karusasaurus* Stanley *et al.,* 2011 being the type genus and *Ouroborus* Stanley *et al.,* 2011.

The tribe Karusasaurini *tribe nov.* is also diagnosed by defining each of the component genera, this being one or other of the following:

1/ *Karusasaurus* Stanley *et al.,* 2011 is defined as follows: Body flattened in cross-section, large-sized (maximum SVL 113-127 mm), robust. Limbs of moderate length, digits unreduced. Dorsal scales small and smooth to keeled in 38-46 transverse rows; caudal scales enlarged and spinose; no occipital spines present. Lower eyelid with transparent disc. Tongue unpigmented. Osteoderms distributed across entire body. Viviparous, usually giving birth to 2-4 young, or:

2/ *Ouroborus* Stanley *et al.,* 2011 is defined as follows: Body flattened to subcylindrical in cross-section, medium to large-bodied (maximum SVL 105 mm), robust. Limbs of moderate length, digits unreduced. Dorsal and scales greatly enlarged (in 15-17 transverse rows) and spinose, caudal scales forming large spines; six large keeled occipitals. Tongue darkly pigmented.

Viviparous, giving birth to 1-2 young.

Distribution: South west South Africa and Namibia.

Content: *Karusasaurus* Stanley *et al.,* 2011 (type genus); *Ouroborus* Stanley *et al.,* 2011.

SUBFAMILY PLATYSAURINAE STANLEY *ET AL*. 2011.

Type genus: *Platysaurus* Smith, 1844.

Diagnosis: Extremely dorso-ventrally flattened. Medium to very large-bodied (maximum snout-vent-length, SVL usually in the range of 73-146 mm), limbs long and digits unreduced. Granular dorsal scales, ventrals large, square or quadrangular, smooth, juxtaposed, in regular longitudinal and transverse series. Caudal scales not spinose and arranged in whorls. Osteoderms restricted to dorsum of head *fide* Lang 1991. Oviparous, laying 1-2 eggs. Sexually dichromatic, with brightly colored males and cryptic females.

Distribution: Southern Africa, specifically known from the following places: Zimbabwe, eastern and northwestern South Africa, extreme southern Namibia, Swaziland, Mozambique, Malawi, southern Tanzania, (adopted from Stanley *et al.* 2011).

Content: (Genera): *Platysaurus* Smith, 1844 (type genus); *Bennettsaurus gen. nov.*; *Edwardssaurus gen. nov.*; *Woolfsaurus gen. nov.*.
Note: The four genera listed immediately above are placed in three newly described tribes in this paper).

GENUS *PLATYSAURUS* SMITH, 1844.

Type species: Type species: *Platysaurus capensis* Smith, 1844.

Diagnosis: The genus *Platysaurus* Smith, 1844 as defined herein is now restricted to the two species, *Platysaurus capensis* Smith, 1844 and *P. broadleyi*, Branch and Whiting, 1997.

Specimens in this genus are separated from other Platysaurinae by the following suite of characters:
Rostral rarely in contact with, usually separated from, the frontonasal, sometimes by an azygous scale; frontonasal as long as broad, sometimes with an azygous scale posteriorly; second or second and third subocular descending to the lip; sometimes a prefrontal also descending to the lip between loreal and preocular; interparietal large, diamond-shaped, enclosed between 2 pairs of parietals; occipitals broken up or absent; enlarged temporals in 2 longitudinal rows, upper largest; sides of neck covered with small granules only; gulars small, elongate, those on the median line more or less enlarged and squarish; granules on flanks minute or but slightly enlarged; limbs above with granules and smooth or feebly keeled scales.

Color in males: Above; head and back bright green anteriorly passing to dull orange on posterior third, with or without three light longitudinal lines on the head which tend to disappear on back; between the lines some ill-defined light spots may be present or absent; flanks greenish blue and orange; tail yellow ringed with brown, a dusky median line anteriorly.

Below, chin and gular region are bright blue; belly anteriorly dark blue, in middle black, posteriorly whitish; limbs and tail pale straw yellow (grenadine in life), the latter ringed with darker colour.

Color in females: Above, head and back very dark brown, with three well-defined light longitudinal lines, between which there are no light spots; flanks and limbs with obsolete pale spots, tail yellow alternately ringed with pale brown, a dusky median line anteriorly. Below, whitish, belly with or without pale blue and pinkish suffusions and a small black patch; tail straw yellow ringed with gray brown.

Both sexes attain a maximum size up to about 207 mm.

Distribution: North-west South Africa and nearby Namibia, which separates this genus from other Platysaurinae by at least 700 km of Kalahari Desert in south-west Africa.

Content: *Platysaurus capensis* Smith, 1844; *P. broadleyi*, Branch and Whiting, 1997.

GENUS *WOOLFSAURUS GEN. NOV.*

Type species: *Platysaurus pungweensis* Broadley, 1959.

Diagnosis: *Woolfsaurus gen. nov.* is separated from the other Platusaurinae genera as defined within this paper by the following suite of characters: 14-16 longitudinal rows of ventrals; opaque lower eyelids, each divided into a series of vertical septa. The supranasals are fused with the nasals. The middle row of gulars is not very enlarged. The scales on the side of the neck are spiny and enlarged and those on the flanks are no larger than those on the back. Males have 13-20 femoral pores. Females and juveniles have a black back with three buff stripes, the middle one commonly being broken into spots or ending on the neck; there not being spots between the stripes. Adult males vary in colour depending on locality (and according to subspecies).

Distribution: East Zimbabwe and nearby Mozambique.

Etymology: Named in honour of Paul Woolf of Walloon, Queensland, Australia in recognition of many decades of long commitment to herpetology and conservation in Australia, including as a Foundation President of the Herpetological Society of Queensland Incorporated (HSQI), also publisher of the journal *Boydii.*

Content: *Woolfsaurus pungweensis* (Broadley, 1959) (monotypic).

GENUS *BENNETTSAURUS GEN. NOV.*

Type species: *Platysaurus mitchelli* Loveridge, 1953.

Diagnosis: The two species within the genus *Bennettsaurus gen. nov.* are readily separated from all other Platysaurinae by the possession of a pair of supranasals. In the case of the species *Platysaurus capensis* from south-west Africa, the scale configuration is quite different and in this species, the nostril is usually considered as being between the upper and lower portions of a divided nasal.

Bennettsaurus gen. nov. are also separated from all other Platysaurinae by the following suite of characters: 12-20 quadrangular ventrals in longitudinal series across the belly; there are two superposed postnasals; occipital is usually absent; lower eyelid is opaque, divided into vertical septa; 4-5 upper labials; 5-6 lower labials; a curved collar composed of 6-11 plates. Femoral pores are equally developed in both sexes, usually in the range of 16-25. 19-24 lamellae under the fourth toe and the scales on the heel and lateral caudals are not spinose.

Distribution: These are the northernmost species of the Platysaurinae being known only from Malawi and Eastern Tanzania and being the only extant species found north of the Zambezi river system.

Etymology: Named in honour of Steve Bennett of Narre Warren, Victoria, Australia, for various services to herpetology spanning over 20 years, as well as in recognition for his services to the Australian fitness and automobile industries.

Content: *Bennettsaurus mitchelli* (Loveridge, 1953) (type species); *B. maculatus* (Broadley, 1965).

SUBGENUS *BENNETTSAURUS SUBGEN. NOV.*

Type species: *Platysaurus mitchelli* Loveridge, 1953.

Diagnosis: The monotypic subgenus *Bennettsaurus subgen. nov.* is most readily separated from the monotypic subgenus *Lucysaurea subgen. nov.* (and all other Platysaurinae) by having 12 quadrangular ventrals in longitudinal series across the belly.

Lucysaurea subgen. nov. in turn is separated from *Bennettsaurus subgen. nov.* by having 16-18, or rarely 14 or 20 quadrangular ventrals in longitudinal series across the belly.

Distribution: Malawi, Africa.

Etymology: See for genus.

Content: *Bennettsaurus* (*Bennettsaurus*) *mitchelli* (Loveridge, 1953).

SUBGENUS *LUCYSAUREA SUBGEN. NOV.*

Type species: *Platysaurus mitchelli* Loveridge, 1953.

Diagnosis: The monotypic subgenus *Bennettsaurus subgen. nov*. is most readily separated from the monotypic subgenus *Lucysaurea subgen. nov.* (and as a rule all other Platysaurinae) by having 12 quadrangular ventrals in longitudinal series across the belly.

Lucysaurea subgen. nov. in turn is separated from *Bennettsaurus subgen. nov*. by having 16-18, or rarely 14 or 20 quadrangular ventrals in longitudinal series across the belly.

As an exception to the first part of the above, but in no way affecting the validity of this diagnosis, I should mention that exceptional specimens of *Vrljicsaurus subgen. nov.* (within *Edwardssaurus gen. nov*.) do occasionally have just 12 ventrals in longitudinal series across the belly, but are readily separated from *Bennettsaurus gen. nov*. by the absence of of a pair of supranasals.

Distribution: Eastern Tanzania, Africa.

Etymology: Named in honour of Lucy Bennett of Narre Warren, Victoria, Australia, (wife of Steve Bennett of Narre Warren, Victoria, Australia), for various services to herpetology spanning over 20 years.

Content: *Bennettsaurus* (*Lucysaurea*) *maculatus* (Broadley, 1965).

GENUS *EDWARDSSAURUS GEN. NOV.*

Type species: *Platysaurus torquatus* Peters, 1879.

Diagnosis: *Edwardssaurus gen. nov.* is best diagnosed by the exclusion of all other genera within the Platysaurinae (3 others), leaving the remaining species (most) within the genus *Edwardssaurus gen. nov.*.

1/ The genus *Platysaurus* Smith, 1844 as defined herein is now restricted to the two species, *Platysaurus capensis* Smith, 1844 and *P. broadleyi*, Branch and Whiting, 1997.

Specimens in this genus are separated from other Platysaurinae by the following suite of characters:
Rostral rarely in contact with, usually separated from, the frontonasal, sometimes by an azygous scale; frontonasal as long as broad, sometimes with an azygous scale posteriorly; second or second and third subocular descending to the lip; sometimes a prefrontal also descending to the lip between loreal and preocular; interparietal large, diamond-shaped, enclosed between 2 pairs of parietals; occipitals broken up or absent; enlarged temporals in 2 longitudinal rows, upper largest; sides of neck covered with small granules only; gulars small, elongate, those on the median line more or less enlarged and squarish; granules on flanks minute or but slightly enlarged; limbs above with granules and smooth or feebly keeled scales.

Color in males: Above; head and back bright green anteriorly passing to dull orange on posterior third, with or without three light longitudinal lines on the head which tend to disappear on back; between the lines some ill-defined light spots may be present or absent; flanks greenish blue and orange; tail yellow ringed with brown, a dusky median line anteriorly. Below, chin and gular region are bright blue; belly anteriorly dark blue, in middle black, posteriorly whitish; limbs and tail pale straw yellow (grenadine in life), the latter ringed with darker colour.

Color in females: Above, head and back very dark brown, with three well-defined light longitudinal lines, between which there are no light spots; flanks and limbs with obsolete pale spots, tail yellow alternately ringed with pale brown, a dusky median line anteriorly. Below, whitish, belly with or without pale blue and pinkish suffusions and a small black patch; tail straw yellow ringed with gray brown.

Both sexes attain a maximum size up to about 207 mm.

2/ *Woolfsaurus gen. nov.* is separated from the other Platusaurinae genera as defined within this paper by the following suite of characters: 14-16 longitudinal rows of ventrals; opaque lower eyelids, each divided into a series of vertical septa. The supranasals are fused with the nasals. The middle row of gulars is not very enlarged. The scales on the side of the neck are spiny and enlarged and those on the flanks are no larger than those on the back. Males have 13-20 femoral pores. Females and juveniles have a black back with three buff stripes, the middle one commonly being broken into spots or ending on the neck; there not being spots between the stripes. Adult males vary in colour depending on locality (and according to subspecies).

3/ The two species within the genus *Bennettsaurus gen. nov*. are readily separated from all other Platysaurinae by the possession of a pair of supranasals. In the case of the species *Platysaurus capensis* from south-west Africa, the scale configuration is quite different and in this species, the nostril is usually considered as being between the upper and lower portions of a divided nasal.

Bennettsaurus gen. nov. are also separated from all other Platysaurinae by the following suite of characters: 12-20 quadrangular ventrals in longitudinal series across the belly; there are two superposed postnasals; occipital is usually absent; lower eyelid is opaque, divided into vertical septa; 4-5 upper labials; 5-6 lower labials; a curved collar composed of 6-11 plates; femoral pores are equally developed in both sexes, usually in the range of 16-25. 19-24 lamellae under the fourth toe and the scales on the heel and lateral caudals are not spinose.

In addition to the above: *Edwardssaurus gen. nov*. are further diagnosed and identified as follows: Extremely dorso-ventrally flattened. Medium to very large-bodied (maximum snout-vent-length, SVL usually in the range of 73-146 mm), limbs long and digits unreduced. Granular dorsal scales, ventrals large, square or quadrangular, smooth, juxtaposed, in regular longitudinal and transverse series. Caudal scales not spinose and arranged in whorls. Osteoderms restricted to dorsum of head *fide* Lang 1991. Oviparous, laying 1-2 eggs. Sexually dichromatic, with brightly colored males and cryptic females.

Distribution: Eastern Southern Africa.

Etymology: Named in honour of Euan Edwards, currently of the Gold Coast, Queensland, Australia, for his immense contributions to herpetology world-wide, including considerable behind the scenes logistical support for herpetologists and scientists in several countries (including myself), including extensive fieldwork in Australia, the United States of America, Madagascar and Africa and gaining access to various institutions, collections, diagnostic facilities and the like, spanning some decades.

Content: *Edwardssaurus torquatus* (Peters, 1879) (type species); *E. guttatus* (Smith, 1849); *E. imperator* (Broadley, 1962); *E. intermedius* (Matschie, 1891); *E. lebomboensis* (Jacobsen, 1994); *E. minor* (Fitzsimons, 1930); *E. monotropis* (Jacobsen, 1994); *E. nigrescens* (Broadley, 1981); *E. ocellatus* (Broadley, 1962); *E. orientalis* (Fitzsimons, 1941); *E. relictus* (Broadley, 1976); *E. rhodesianus* (Fitzsimons, 1941); *E. torquatus* (Peters, 1879); *E. wilhelmi* (Hewitt, 1909).

SUBGENUS *VRLJICSAURUS SUBGEN. NOV.*

Type species: *Platysaurus ocellatus* Broadley, 1962.

Diagnosis: *Vrljicsaurus subgen. nov.,* monotypic for "*Platysaurus ocellatus* Broadley, 1962", is separated from other *Edwardssaurus* by the following suite of characters: Females and juveniles are unusual among all *Platysaurinae* in that they completely lack any trace of three dorsal stripes. The lower eyelids are opaque, each divided into a series of vertical septa. The supranasals are fused with the nasals. The middle row of gulars is very enlarged. The scales on the sides of the neck are spiny but not enlarged, and the collar is straight and composed of large plates. The ventrals are in 12-14 longitudinal rows. Males have 13-18 femoral pores. Females and juveniles have a bronze back with numerous pale, ill-defined spots. The tail is a blackish colour. The throat is white, speckled with grey. The belly is cream and yellow under the base of the tail. Adult males have

a uniform black-brown head and an olive-brown back with sulphur-yellow, dark edged spots. The tail is brown above and orange to yellow below, but in large specimens may be orange to yellow above and below. The belly is pale green to blue.

Distribution: Known only from south east Zimbabwe and adjacent Mozambique.

Etymology: Named in honour of Mike Vrljic (better known as "H-bomb") of Melbourne, Victoria, Australia for services to the Australian Fitness Industry, in particular his main area of endeavour, power lifting and strong man competitions.

In 2012-2013, he overcame the odds against him and beat a life-threatening case of heart disease to become (again) a champion of his sport.

Content: *Edwardssaurus* (*Vrljicsaurus*) *ocellatus* (Broadley, 1962).

SUBGENUS *MACGOLDRICHSAURUS SUBGEN. NOV.*

Type species: *Platysaurus guttatus minor* Fitzsimons, 1930.

Diagnosis: Species within the subgenus *Macgoldrichsaurus subgen. nov*. are separated from the other subgenera within the genus by the possession of one or other of the following three suites of characters:

1/ A large occipital wedged between the posterior parietals; sides of neck covered with small and enlarged granules; granules on flanks distinctly enlarged; scales covering limbs, above mostly rugose and strongly keeled; adpressed hind limb reaches axilla or shoulder or in rare cases the neck; adult length from snout to anus less than 80 mm; some dorsals in the vertebral series very slightly enlarged; lower surface in both sexes dark; interparietal forming a suture with an occipital as large as itself; spines prominent both on tibia towards heel and on lateral caudals; chin and throat of male black; edges of light lines on dorsum of female blurred; or:

2/ A large occipital wedged between the posterior parietals; sides of neck covered with small and enlarged granules; granules on flanks distinctly enlarged; scales covering limbs, above mostly rugose and strongly keeled; adpressed hind limb reaches axilla or shoulder or in rare cases the neck; adult length from snout to anus less than 80 mm; dorsals subuniform; lower surface in both sexes light but males with dark patches on belly; males above, olive brown to reddish brown with light spots on dorsum arranged in longitudinal lines; in females such light spots are arranged in longitudinal lines also, but no black spots present on abdomen; flanks buff; or:

3/ A large occipital wedged between the posterior parietals; sides of neck covered with small and enlarged granules; granules on flanks distinctly enlarged; scales covering limbs, above mostly rugose and strongly keeled; adpressed hind limb reaches axilla or shoulder or in rare cases the neck; adult length from snout to anus less than 80 mm; males above, dull green to bluish green with light spots on dorsum scattered; in females such light spots are absent or only present posteriorly; but irregular black spots are present on abdomen; flanks dull green to bluish green.

Distribution: South-east Africa in the region centred around north-east South Africa.

Etymology: Named in honour of Simon McGoldrich of Ringwood East, Victoria, Australia, in recognition of his excellent wildlife conservation work assisting Snakebusters, Australia's best reptiles displays.

Content: *Edwardssaurus* (*Macgoldrichsaurus*) *minor* (Fitzsimons, 1930) (type species); *E.* (*Macgoldrichsaurus*) *intermedius* (Matschie, 1891); *E.* (*Macgoldrichsaurus*) *lebomboensis* (Jacobsen, 1994); *E.* (*Macgoldrichsaurus*) *monotropis* (Jacobsen, 1994); *E.* (*Macgoldrichsaurus*) *nigrescens* (Broadley, 1981); *E.* (*Macgoldrichsaurus*) *orientalis* (Fitzsimons, 1941); *E.* (*Macgoldrichsaurus*) *relictus* (Broadley, 1976); *E.* (*Macgoldrichsaurus*) *wilhelmi* (Hewitt, 1909).

SUBGENUS *EDWARDSSAURUS SUBEN. NOV.*

Type species: *Platysaurus torquatus* Peters, 1879.

Diagnosis: Species within the subgenus *Edwardssaurus subgen. nov*. are separated from the other subgenera within the genus by the possession of one or other of the following three suites of characters:

1/ A large occipital wedged between the posterior parietals; sides of neck covered with small and enlarged granules; granules on flanks distinctly enlarged; scales covering limbs, above mostly rugose and strongly keeled; adpressed hind limb reaches axilla or shoulder or in rare cases the neck; rostral in contact with frontonasal; inter-parietal separated from occipital; collar scales 6-7; ventral plates in 16-20 longitudinal and 39-45 transverse rows (from collar); adult length from snout to anus between 90 and 105 mm., or:

2/ A large occipital wedged between the posterior parietals; sides of neck covered with small and enlarged granules; granules on flanks distinctly enlarged; scales covering limbs, above mostly rugose and strongly keeled; adpressed hind limb reaches axilla or shoulder or in rare cases the neck; adult length from snout to anus more than 90 mm; rostral separated from frontonasal; inter-parietal in contact with occipital; collar scales 7-12; ventral plates in 18-26 longitudinal and 40-48 transverse rows., or:

3/ A large occipital wedged between the posterior parietals; sides of neck covered with small and enlarged granules; granules on flanks distinctly enlarged; scales covering limbs, above mostly rugose and strongly keeled; adpressed hind limb reaches axilla or shoulder or in rare cases the neck; adult length from snout to anus less than 80 mm; some dorsals in the vertebral series very slightly enlarged; lower surface in both sexes is dark; interparietal forming a suture with a small occipital which may be broken up; spines on tibia towards heel poorly developed, on lateral caudals not at all; chin and throat of male gray green with black markings; edges of light lines on dorsum of female sharply defined.

Distribution: South-east Africa in the region centred around Zimbabwe.

Etymology: See for the genus *Edwardssaurus gen. nov.*.

Content: *Edwardssaurus* (*Edwardssaurus*) *torquatus* (Peters, 1879) (type species); *E.* (*Edwardssaurus*) *guttatus* (Smith, 1849); *E.* (*Edwardssaurus*) *imperator* (Broadley, 1962); *E.* (*Edwardssaurus*) *rhodesianus* (Fitzsimons, 1941); *E.* (*Edwardssaurus*) *torquatus* (Peters, 1879).

TRIBE WOOLFSAURINI *TRIBE. NOV.*

Terminal taxon: *Platysaurus pungweensis* Broadley, 1959.

Diagnosis: *Woolfsaurini tribe nov.* is monotypic for the genus *Woolfsaurus gen. nov.* and so at the present time and in the absence of fossil material has the same diagnosis.

Woolfsaurini tribe nov. is separated from the other Platusaurinae genera as defined within this paper by the following suite of characters: 14-16 longitudinal rows of ventrals; opaque lower eyelids, each divided into a series of vertical septa. The supranasals are fused with the nasals. The middle row of gulars is not very enlarged. The scales on the side of the neck are spiny and enlarged and those on the flanks are no larger than those on the back.

Males have 13-20 femoral pores. Females and juveniles have a black back with three buff stripes, the middle one commonly being broken into spots or ending on the neck; there not being spots between the stripes.

Adult males vary in colour depending on locality (and according to subspecies).

Distribution: East Zimbabwe and nearby Mozambique.

Etymology: See for genus *Woolfsaurus gen. nov.*

Content: *Woolfsaurus gen. nov*. (monotypic).

TRIBE BENNETTSAURINI *TRIBE NOV.*

Terminal taxon: *Platysaurus mitchelli* Loveridge, 1953.

Diagnosis: As the tribe is monotypic for the genus *Bennettsaurus gen. nov.*, the diagnosis in the absence of fossil material is one and the same. The two species within the genus *Bennettsaurus gen. nov.* are readily separated from all other Platysaurinae by the possession of a pair of supranasals. In the case of the species *Platysaurus capensis* from south-west Africa (within a separate tribe as defined within this paper), the scale configuration is quite different and in this species, the nostril is usually considered as being between the upper and lower portions of a divided nasal.

Bennettsaurus gen. nov. are also separated from all other Platysaurinae by the following suite of characters: 12-20 quadrangular ventrals in longitudinal series across the belly. There are two superposed postnasals; occipital is usually absent; lower eyelid is opaque, divided into vertical septa; 4-5 upper labials; 5-6 lower labials; A curved collar composed of 6-11 plates.

Femoral pores are equally developed in both sexes, usually in the range of 16-25. 19-24 lamellae under the fourth toe and the scales on the heel and lateral caudals are not spinose.

Distribution: These are the northernmost species of the Platysaurinae being known only from Malawi and Eastern Tanzania and being the only extant species found north of the Zambezi river system.

Etymology: See for genus *Bennettsaurus gen. nov.*

Content: *Bennettsaurus gen. nov.*

TRIBE *PLATYSAURINI TRIBE NOV.*

Terminal taxon: *Platysaurus capensis* Smith, 1844.

Diagnosis: The tribe *Platysaurini tribe nov.* is defined best by defining the two component genera.

1/ The genus *Platysaurus* Smith, 1844 as defined herein is now restricted to the two species, *Platysaurus capensis* Smith, 1844 and *P. broadleyi*, Branch and Whiting, 1997.

Specimens in this genus are separated from other Platysaurinae by the following suite of characters:
Rostral rarely in contact with, usually separated from, the frontonasal, sometimes by an azygous scale; frontonasal as long as broad, sometimes with an azygous scale posteriorly; second or second and third subocular descending to the lip; sometimes a prefrontal also descending to the lip between loreal and preocular; interparietal large, diamond-shaped, enclosed between 2 pairs of parietals; occipitals broken up or absent; enlarged temporals in 2 longitudinal rows, upper largest; sides of neck covered with small granules only; gulars small, elongate, those on the median line more or less enlarged and squarish; granules on flanks minute or but slightly enlarged; limbs above with granules and smooth or feebly keeled scales.

Color in males: Above; head and back bright green anteriorly passing to dull orange on posterior third, with or without three light longitudinal lines on the head which tend to disappear on back; between the lines some ill-defined light spots may be present or absent; flanks greenish blue and orange; tail yellow ringed with brown, a dusky median line anteriorly. Below, chin and gular region are bright blue; belly anteriorly dark blue, in middle black, posteriorly whitish; limbs and tail pale straw yellow (grenadine in life), the latter ringed with darker colour.

Color in females: Above; head and back very dark brown, with three well-defined light longitudinal lines, between which there are no light spots; flanks and limbs with obsolete pale spots, tail yellow alternately ringed with pale brown, a dusky median line anteriorly. Below, whitish, belly with or without pale blue and pinkish suffusions and a small black patch; tail straw yellow ringed with gray brown.

Both sexes attain a maximum size up to about 207 mm.

2/ *Edwardssaurus gen. nov.* is best diagnosed by the exclusion of all other genera within the Platysaurinae (3 other genera), leaving the remaining species (most) within the genus *Edwardssaurus gen. nov.*.

A/ The genus *Platysaurus* Smith, 1844 is defined above.

B/ *Woolfsaurus gen. nov.* is separated from the other Platusaurinae genera as defined within this paper by the following suite of characters: 14-16 longitudinal rows of ventrals; opaque lower eyelids, each divided into a series of vertical septa. The supranasals are fused with the nasals. The middle row of gulars is not very enlarged. The scales on the side of the neck are spiny and enlarged and those on the flanks are no larger than those on the back. Males have 13-20 femoral pores. Females and juveniles have a black back with three buff stripes, the middle one commonly being broken into spots or ending on the neck; there not being spots between the stripes. Adult males vary in colour depending on locality (and according to subspecies).

C/ The two species within the genus *Bennettsaurus gen. nov.* are readily separated from all other Platysaurinae by the possession of a pair of supranasals. In the case of the species *Platysaurus capensis* from south-west Africa, the scale configuration is quite different and in this species, the nostril is usually considered as being between the upper and lower portions of a divided nasal.

Bennettsaurus gen. nov. are also separated from all other Platysaurinae by the following suite of characters: 12-20 quadrangular ventrals in longitudinal series across the belly. There are two superposed postnasals; occipital is usually absent; lower eyelid is opaque, divided into vertical septa; 4-5 upper labials; 5-6 lower labials; A curved collar composed of 6-11 plates.

Femoral pores are equally developed in both sexes, usually in the range of 16-25. 19-24 lamellae under the fourth toe and the scales on the heel and lateral caudals are not spinose.

In addition to the above: *Edwardssaurus gen. nov.* are further diagnosed and identified as follows: Extremely dorso-ventrally flattened. Medium to very large-bodied (maximum snout-vent-length, SVL usually in the range of 73-146 mm), limbs long and digits unreduced. Granular dorsal scales, ventrals large, square or quadrangular, smooth, juxtaposed, in regular longitudinal and transverse series. Caudal scales not spinose and arranged in whorls. Osteoderms restricted to dorsum of head *fide* Lang 1991. Oviparous, laying 1-2 eggs. Sexually dichromatic, with brightly colored males and cryptic females.

Distribution: For the genus *Platysaurus* Smith, 1844 the distribution is north-west South Africa and nearby Namibia on the east side of the Kalahari Desert. For the genus *Edwardssaurus gen. nov.* the distribution is centred on north-west South Africa and nearby regions.

Etymology: As for the type genus (Flat lizard).

Content: *Platysaurus* Smith, 1844 (type genus); *Edwardssaurus gen. nov.*.

FIRST REVISOR NOTES

In the event that a subsequent worker seeks to merge named tribes, genera or subgenera first named herein; in the absence of Zoological Code rules to the contrary, the order of retention should be as published, that being by line or page priority in this original publication, in terms of the descriptions themselves.

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CONFLICT OF INTEREST

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