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A review of the extant Scolecophidians (“Blindsnakes”) including the formal naming and diagnosis of new tribes, genera, subgenera, species and subspecies for divergent taxa.

A review of the extant Scolecophidians ("Blindsnakes") including the formal naming and diagnosis of new tribes, genera, subgenera, species and subspecies for divergent taxa.

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ABSTRACT

The snakes of the infraorder Scolecophidia have been the subject of scrutiny by taxonomists for many years and yet there has never been a single consistent group-wide reclassification.

Modern molecular methods and important studies of the morphology of the relevant species have resolved many questions in terms of the phylogeny of the various species groups.

In summary many physically similar species placed within given genera have been shown to be phylogenetically divergent and hence the genera paraphyletic.

Adalsteinsson et. al. (2009) made an important contribution by naming and resurrecting numerous previously named groups within the Leptotyphlopids in order to make the taxonomy of this group broadly consistent with that the advanced snakes in terms of tribe and genus level designations.

Following on from that paper and published refinements since, and for the first time ever, this paper presents a unified and consistent taxonomy for all described and recognized Blindsnakes.

The result is that this paper erects twenty (20) new tribes, thirty six (36) new genera and thirteen (13) new subgenera to accommodate divergent taxa, all named and diagnosed according to the Zoological Code.

Two (2) new species and two (2) new subspecies are also formally named and described according to the code.

Keywords: blind snake; taxonomy; Typhlopoidea; Leptotyphlopoidea; Anomalepididoidea; tribe; Typhlopini; Smythtyphlopini; Cottontyphlopini; Ronhoserini; Libertadictiini; Martinwellstyplopini; Ramphotyphlopini; Maxhoserini; Argyophiini; Katrinahosertyphlopini; Lenhosertyphlopini; Crottytyphlopini; Cyclotyphlopini; Gryptotyphlopidini; Xenotyphlopini; Gerrhopilini; Cyrilhoserini; Anomalepiini; Helminthophiini; Typhlophisini; genus; *Altmantypophlops*; *Smythtyphlops*; *Swiletyphlops*; *Nintyphlops*; *Laidlawtyphlops*; *Wilsontyphlops*; *Pillotttyphlops*; *Whybrowtyphlops*; *Gleesontyphlops*; *Cottontyphlops*; *Trioanotyphlops*; *Ronhoserus*; *Eippertyphlopea*; *Elliotttyphlopea*; *Edwardstypophlops*; *Woolftypophlops*; *Carrtyphlopea*; *Martinwellstypophlops*; *Oxytyphlops*; *Johnwilsontyphlops*; *Funkityphlops*; *Maxhoserus*; *Piersontyphlops*; *Rentontyphlops*; *Katrinahosertyphlops*; *Lenhosertyphlops*; *Crottytyphlops*; *Arnoldtyphlops*; *Freudtyphlops*; *Billmacordus*; *Cyrilhoserus*; *Crishagenus*; *Evanwhittonus*; *Bobbottomus*; *Scanlonus*; *Karimdaouesus*; subgenus; *Mosestypophlops*; *Dannytyphlops*; *Acetyphlops*; *Goldsteintypophlops*; *Copelandtyphlops*; *Judywhybrowea*; *Rolyburrellus*; *Longinidis*; *Ottobreus*; *Teesleptotyphlops*; *Macphieus*; *Kraussus*; *Hawkeswoodus*; species; *kirnerae*; *carolinehoserae*; subspecies; *wellsi*; *wellingtoni*; Scolecophidia; Typhlopidae; Xenotyphlopidae; Gerrhopilidae; Leptotyphlopidae; Anomalepididae.

INTRODUCTION

The Scolecophidia represent an early divergence in the extant snake lineages. As a group they are of little human interest due to their burrowing habits, small size and lack of danger to people. Because most species feed on ants and the like, they are rarely kept in captivity and don't generate the interest that the larger and more numerous Alethinophidian snakes do.

However, the obvious number of known species, currently in excess of 300 has led to some very skilled taxonomists doing studies of these snakes on both a regional and a global basis.

Earlier studies relying on morphological differences between species have had difficulties in splitting the species groups.

As a result, some genera as currently defined have global distributions and that's not including those species moved about by human activities in the last century.

Contrasting this are recent molecular studies that show the extant species are evolved from ancient lineages and that many phenotypically similar species actually have deep historical divergences.

Modern authors including Vidal et. al. (2010) using molecular methods have also tried to relate phylogenetic splits with the breakups of continental land masses as far back 152 million years ago when most of the continental plates (the southern ones in particular) were joined as a single landmass.

The results of Vidal et. al. (2010) reflects other recent studies that shows that divergences between the major extant genera occurred more than 150 million years ago. Snakes currently placed within single genera also had extremely ancient divergences. By way of example and based on the results of Vidal et. al., snakes currently placed in the genus *Typhlops* Oppell, 1811 contain members distributed globally, that diverged from one another more than 65 million years ago (the Dinosaur age).

Clearly the placement of these divergent species within the same genus is not consistent when reconciled with the classifications of other higher vertebrates, in particular the advanced snakes.

In recent years a number of authors, notably Wells and Wellington, Hedges, and Wallach and Broadley have in fact erected new genera for divergent Scolecophidian species. Some, but not all their newly defined genera have been emphatically validated by recent molecular studies.

The most significant inroad to date in terms of tidying up the taxonomy and nomenclature of the Scolecophidian snakes was the paper by Adalsteinsson et. al. (2009), which largely resolved the taxonomy of this group, although there have been published refinements since, including Hedges (2011) and some further changes within this paper.

There have been numerous important studies relevant to the Blind Snakes from the point of view of the taxonomy and taxonomic decisions within this paper. These include: Adalsteinsson et. al. (2009), Ali and Aitchison (2008), Amaral (1955), Anderson (1896), Andersson (1937), Aplin (1998), Aplin and Donnellan (1993), Auerbach

(1987), Auffenberg (1980), Bailey (1946), Bain and Hurley (2011), Baird and Girard (1853), Barbour (1914), Barbour and Loveridge (1928), Bianconi (1850), Bocage (1886, 1893), Bocage and Barboza (1873), Boettger (1881, 1882, 1886, 1890, 1893, 1897, 1913), Bogert (1942), Boie (1827), Bonaparte (1845), Boulenger (1884, 1887, 1888a, 1888b, 1889, 1890a, 1890b, 1892, 1893, 1898a, 1898b, 1899, 1900, 1902, 1905, 1906, 1910, 1914, 1919), Bourret (1937), Branch (1998, 2005), Broadley (1999), Broadley and Broadley (1996, 1999), Broadley and Wallach (1996, 1997a, 1997b, 2000, 2007, 2009), Broadley and Watson (1976), Breuil (1999, 2002), Carranza et. al. (2000), Chabanaud (1916, 1917), Cheke (2010), Chirio and Lebreton (2007), Cogger (2000), Constable (1949), Cope (1868, 1869, 1886, 1896, 1899), Cos and Moore (2005), Couper et. al. (1998), Cundall and Greene (2000), Cuvier (1836), Daudin (1803), Degerbol (1923), de Lang and Vogel (2005), Delsuc et. al. (2004), de Rooij (1917), de Witte (1933, 1953, 1962), Dixon and Hendricks (1979), Dixon and Kofron (1984), Dixon and Vaughn (2003), Domínguez and Díaz (2011), Doria (1874), Dowling and Duellman (1978), Duméril (1856), Duméril and Bibron (1844), Duméril and Duméril (1851), Dunn (1944, 1946), Ferner et. al. (2000), Fitzinger (1843), Fitzsimons (1932, 1962, 1966), Flower (1899), Franzen and Wallach (2002), Freiberg and Orejas Miranda (1968), Freire et. al. (2007), Garman (1883), Gaulke (1994, 1995, 1996), Girard (1857), Glaw and Vences (1994), Grandison (1978), Gray (1845), Greene (1997), Grismer (1999), Guibé (1958), Günther (1864, 1885-1902), Haad et. al. (2008), Hahn (1978, 1979, 1980), Hahn and Wallach (1998), Hallam (1994), Hallermann and Roedel (1995), Hammar (1908), Head et. al. (2005), Hedges (2001, 2006, 2008, 2011), Hedges and Thomas (1991), Hedges et. al. (1996, 2009a, 2009b), Heinicke et. al. (2007, 2009), Herklots (1951), Hoogmoed (1977), Hoser (1980, 1989), Hoser and Scanlon (1994), Huebeck and Mann (1985), In Den Bosch and Ineich (1994), Ingram and Covacevich (1993), Jacquet (1895), Jan (1860a, 1860b, 1861, 1861a, 1861b, 1863, 1864), Joger (1990), Karsen et. al. (1986, 1988), Khan (1999a, 1999b), Kinghorn (1929), Klauber (1939, 1940), Kocak and Kemal (2008), Kornilios et. al. (2011a, 2011b), Kretzschmar (2006), Kumar and Hedges (1998), Kwet and Schweizer (2006), Lanza (1990), Laporte (1834), Largen (1978), Largen and Spawls (2010), Laurent (1949, 1956, 1964, 1984), Lazell (1999), Lazell and Lu (1990), LeBretton (1999), Legler (1959), Lehr et. al. (2002), Leviton et. al. (1985), Lim and Chou (1990), Lim and Lim (1992), Linnaeus (1758), Loveridge (1929, 1931, 1932, 1933, 1941, 1948, 1957), Macey et. al. (2008), Macklin (1988), Marx (1953), McDiarmid et. al. (1999), McDowell (1974), Mckeown (1996), Merren (1820), Mertens (1930), Meshaka (1994, 2011), Morrison (2003), Murthy (2010), Nanhoé and Ouboter (1987), Nguyen et. al. (2009), Niyomwan et. al. (2001), Noonan and Chippindale (2006), Nussbaum (1980), Ogg et. al. (2004), Orejas-Miranda (1961, 1964, 1967, 1969), Orejas-Miranda and Peters (1970), Orejas-Miranda and Zug (1974), Orejas-Miranda et. al. (1970), Oshima (1916), Parker (1930, 1936, 1939, 1949), Passos et. al. (2005, 2006), Pérez-Santos and Moreno (1988), Perry (1985, 1990), Peters (1970), Peters (1854, 1858, 1860,

1867, 1874, 1875, 1877, 1881a, 1881b, 1882), Pinto and Curcio (2011), Pinto et. al. (2010), Pough et. al. (2003), Powell, et. al. (1996), Rage and Werner (1999), Rendahl (1918), Renoult and Raselimanana (2009), Reymont and Dingle (1987), Richmond (1955, 1964), Ritgen (1828), Robb (1960, 1966a, 1966b, 1972), Rochebrune (1884), Romer (1970), Rösler and Wranik (2006), Roux (1927), Roux-Estève (1970, 1974a, 1974b, 1979), Sadlier and Bauer (1997), Sanders and Lee (2008), Savage (1950, 2002), Schmidt and Walker (1943), Schwartz and Henderson (1991), Schlegel (1839), Schmidt (1977), Schneider (1801), Scortecchi (1929, 1933), Sharma (2004), Shea (1995, 1999, 2001), Shea and Horner (1997), Shea and Wallach (2000), Shreve (1964), Smith (1943), Smith and Larsen (1974), Smith and Laufe (1945), Spawls et. al. (2001), Starace (1998), Stejneger (1891, 1893), Sternfeld (1908, 1910, 1912, 1913), Stoliczka (1871a, 1871b), Storr (1981, 1983), Tanner (1948), Taylor (1918, 1919, 1939a, 1939b, 1940, 1947, 1951, 1962, 1965), Thomas (1965a, 1965b, 1966, 1968, 1976, 1989), Thomas and Hedges (2007), Thomas and Powell (1994), Thomas et. al. (1985), Trape and Mané (2000, 2004, 2006), Trape and Roux-Estève (1995), Tschudi (1845), Underwood (1967), Vanzolini (1948, 1996), Vidal and Hedges (2004, 2005), Vidal et. al. (2007, 2008, 2009, 2010), Villiers (1956), Vitt and Caldwell (2009), Vogt (1932), Wagler (1824, 1830), Waite (1897, 1918a, 1918b), Wall (1903, 1908, 1909a, 1909b, 1913, 1921), Wallach (1993a, 1993b, 1994, 1995, 1996a, 1996b, 1997, 1998a, 1998b, 1999, 2000, 2001, 2002, 2003, 2006), Wallach and Boundy (2005), Wallach and Glaw (2009), Wallach and Hahn (1997), Wallach et. al. (2007a, 2007b), Watkins et. al. (1969), Webb and Shine (1992, 1993), Webb et. al. (2000, 2001), Werner (1896, 1899a, 1899b, 1901, 1909, 1917), Wiegmann and Rütke (1832), Wynn and Leviton (1993), Wynn et. al. (2012), Zhao and Adler (1993), Zhao et. al. (1998), Zug (1977), Zug et. al. (2001).

Some of the just cited papers detail aspects of ecology of given taxa which is also indicative of phylogeny in many cases.

Notwithstanding previous taxonomic placements of species, the fact is now abundantly clear that when all species are viewed in the light of the most recent molecular studies it is clear that there are groups of species clearly divergent and which should not be placed in the same genera as the type species for those genera.

To rectify this situation, this paper erects and defines according to the Zoological Code (Ride et. al. 1999), new tribes, genera and subgenera to accommodate the most obviously divergent species groups, some of which are apparently monotypic.

As mentioned already, Adalsteinsson et. al. (2009) did a major review of the Leptotyphlopids. This paper does not revisit that work, save for where there may be differences of opinion and/or where new genera or subgenera are erected for groups they either overlooked or chose not to define and in the context of other more recent publications on the group.

The relevant diagnoses of the tribes, genera and the like within the paper by Adalsteinsson et. al. (2009), are otherwise accepted herein and without redefinition here.

THE DESCRIPTIONS

This paper does not seek to revisit the work of previous authors or to redefine extant and named genera when this can be sensibly avoided, merely by reference to the relevant important papers.

However some points of note are made here. The following Scolecophidian genera are herein recognized as being valid for the taxa they were originally defined to identify, in so far as they accommodate the type species and any taxa obviously closely related to them.

Acutotyphlops Wallach, 1995

Argyophis Gray, 1845

Aspidorhynchus Fitzinger, 1843

Anomalepis Jan, 1860

Cyclotyphlops Bosch and Ineich, 1994

Epacrophis Hedges, Adalsteinsson and Branch, 2009

Epictia Gray, 1845

Gerrhopilus Fitzinger, 1843

Grypotyphlops Peters, 1881

Helminthophis Peters, 1860

Leptotyphlops Fitzinger, 1843

Letheobia Cope, 1869

Libertadictus Wells and Wellington, 1983

Liotyphlops Peters, 1861

Megatyphlops Broadley and Wallach, 2009

Mitophis Hedges, Adalsteinsson and Branch, 2009

Myriopholis Hedges, Adalsteinsson and Branch, 2009

Namibiana Hedges, Adalsteinsson and Branch, 2009

Ramphotyphlops Fitzinger, 1843

Rena Baird and Girard, 1853

Rhinoleptus Orejas-Miranda, Roux-Estève and Guibé, 1970

Rhinotyphlops Fitzinger, 1843

Siagonodon Peters, 1881

Sivadictus Wells and Wellington, 1985

Tetracheilostoma Jan, 1861

Trilepida Hedges, 2011

Typhlops Oppell, 1811

Typhlophis Fitzinger, 1843

Xenotyphlops Wallach and Ineich, 1996

Genera not named herein are regarded as synonyms of those above and have been relegated to that status in earlier publications of others.

I will however mention that I have treated the genus name *Libertadictus* Wells and Wellington, 1983 (type species *bituberculatus*) as applying to almost all Australian species of Typhlopids.

The name *Sivadictus* Wells and Wellington, 1985 is available for the *nigrescens* species group and used herein. The genus name *Austrotyphlops* Wallach, 2006 is a junior synonym for *Sivadictus* as it uses the same type species, namely *Anilius nigrescens* Gray, 1845.

Therefore the name *Austrotyphlops* is unavailable for any purpose and should not be used.

Its use by other authors and some online databases is in error.

Noting the relatively recent radiation of Australian typhlopids (see Vidal et. al. 2010), I would not recommend division of them beyond that of the two currently recognized genera, although the use of subgenera is recommended by myself to define the species groups at a later stage.

However, noting that most of the Australian species do in fact form a clear and well-defined group that is separate from all other typhlopids, the name *Libertadictus* should be used to define them all at the genus level unless they are further subdivided.

Wells (in particular) has used the name *Sivadictus* as the descriptive genus name for Australian blind snakes, treating *Libertadictus* as an unusual and divergent taxon.

While the DNA results of Vidal et. al. 2010 supports this contention within the context of Australian species, the relatively recent divergence of the forms would in my view tend to place all within a single genus.

Therefore my position (taken herein) is that *Libertadictus* usurps *Sivadictus* due to obvious date priority under the Zoological Code, while *Sivadictus* becomes restricted (at best) to the *nigrescens* group of species, which is how I treat each name in the context of this paper.

I had planned on dividing the Australian species into six well-defined subgenera, namely the *ligatus* group, *bituberculatus* group (*Libertadictus*), *longissimus* group, *australis* group, *nigrescens/polygrammicus* (*Sivadictus*) group and *bicolor* group, thereby naming four new groups as subgenera, but have deferred doing so as a result of advice that Richard Wells is about to publish a paper on the Australian species, including one or more taxonomic/nomenclatural actions.

In terms of the attempt to be consistent in my treatment of all species from the classification viewpoint, this failure to place the four above-mentioned groups in subgenera is my only departure from this position and is done for the reasons just explained.

Pseudotyphlops Fitzinger, 1843 is not valid and so is not used herein.

The name *Afrotyphlops* Broadley and Wallach 2009, is a direct junior synonym for *Aspidorhynchus* Fitzinger, 1843, using the same species as the type for the genus.

Therefore *Afrotyphlops* should not be used as a name to identify the relevant species placed in that genus by Broadley and Wallach, 2009. Noting that it is only three years since Broadley and Wallach published their paper, it is appropriate that the little used and correct senior synonym be used in this paper for the relevant African taxa in accordance with the Zoological Code (Ride et. al. 1999).

Notwithstanding the demonstration herein that both *Austrotyphlops* Wallach, 2006 and *Afrotyphlops* Broadley and Wallach, 2009 are both invalid junior synonyms, other names proposed by them at the genus level are valid and as a rule are recognized and used within this paper.

I also note herein, that while the actions of Broadley and Wallach as detailed by Hoser (2012) are reprehensible and worthy of the most serious sanction, this does not give me or anyone else the right to attempt to improperly

suppress or advocate non-use of their names properly made available under the Zoological Code. This is even after the most recent and totally improper attempt by Hinrich Kaiser and friends (see Kaiser 2012) to go outside the Zoological Code (their words) and do exactly this with all species groups and species formally named by myself since year 2000.

Argyrophis Gray, 1845 is resurrected to accommodate the taxon *Typhlops diardi* Schlegel, 1839 and the closely related species taxon *muelleri*.

The genus *Grypotyphlops* Peters, 1881 is herein restricted to include only the type species *Onychocephalus acutus* Duméril and Bibron, 1844, contrary to the position of Wallach (2003) who placed the taxon *Onychocephalus unilineatus* Duméril and Bibron, 1844 in the same genus. I tentatively accept the position of Dickson and Hendricks (1979) that the relevant holotype was probably a mislabeled specimen from the southern Asian region. Other species from the Indian subcontinent and nearby may ultimately also be placed in this genus.

Due to the large number of species involved and the fact that new ones are being described constantly, it should be noted that some of the genera described herein will be likely to include species taxa not identified herein. It is likely to be some decades before all the relevant species of snake are in fact made known to science and correctly assigned to component genera.

Furthermore, I should note that while the number of new tribes and genera defined seems large, the number relative to the size of the group of snakes (the Blindsnakes) and their actual phylogeny remains conservative as compared to all other snakes.

I have no doubt that further genera and subgenera will be defined and named beyond those I have already named and defined herein, further splitting the extant Blindsnakes further.

Extant and previously named genera are defined herein as required under the relevant headings for the Typhlopidae, Xenotyphlopidae, Gerrhopilidae, Leptotyphlopidae and the Anomalepididae.

When previously named genera are listed but not diagnosed, I rely upon either the original description of the said genus for a diagnosis or alternatively, the most recent diagnosis as cited at the relevant part of this paper or in the references provided.

THE SCOLECOPHIDIA INCLUDING FAMILIAL DIAGNOSES

Phylogenetic studies generally agree that Scolecophidians are the sister-taxon to all other crown-group snakes, a clade called Alethinophidia; see Lee and Scanlon (2002) for a review. Alethinophidia consists of the pipe snakes and kin, known as anilioids, which may or may not be a monophyletic group, see Gower et. al. (2005), and the macrostomatans, which are all the other so-called "advanced snakes". Located as they are right down at the base of crown-group Serpentes, Scolecophidians are obviously important in terms of hypotheses on early snake evolution.

What isn't known is whether their small size, specialization for fossoriality and insectivorous diet, are

primitive for snakes, or are they degenerate forms, only deceptively 'primitive' due to the loss or modification of features present in earlier snakes, and then generally retained since.

That the lineage is ancient is not in dispute.

All Scolecophidians look superficially similar. They are smooth-scaled, cylindrical, slender snakes (sometimes incredibly slender), usually with blunted heads, ventrally placed mouths, similar to that seen in sharks, eyes usually reduced to black spots under the scales, and short tails that often end in a spike. The scales of Typhlopids at least are thick and strongly overlapping, and in some species the scales glow under UV light. Most species are pinkish brown in colour and often with reduced body pigment and little if any pattern, although there are some notable exceptions.

Furthermore, the scales are so thick that shed skins are sometimes rubbery in texture (Kley 2003). These thick scales defend the snakes from aggressive insects, but one North American Leptotyphlopoid has been shown to repel insects chemically: the snake smears itself in cloacal sac secretions that ants avoid (Gehlback et. al. 1968). In Leptotyphlopids, the pelvis is complete, and a small femur is present. All Scolecophidians are small: the record holder reaches 100 cm (the Typhlopoid *Rhinotyphlops schlegelii*, or Schlegel's blindsnake), matched by a few other taxa in the West Indies and Africa, but few exceed 60 cm, and most are less than 30 cm long. Scolecophidians never bite people but do sometimes emit faint squeaking sounds (Kley 2003). Scolecophidian heads are very unusual when compared to other snakes. Though most species are blunt-snouted, some have sharply pointed snouts and many have unusual hooked snouts.

Flattened, sloping snouts and even tri-lobed snouts are also present. Tactile organs are present on the head and are visible as small specks on the head scales and some Typhlopoid species, most notably the Madagascan *Xenotyphlops* species, have flexible papillae growing from the scales at the snout tip.

Nearly all Scolecophidians appear to be dedicated arthropod predators, mostly eating the larvae and pupae of ants and termites. However, at least some species eat moderately large prey: Webb et. al. (2001) documented predation on large earthworms by the Melanesian Typhlopoid *Acutotyphlops subocularis*. Despite the reliance of most species on very small prey and this applies even to the 'giant' Schlegel's Blindsnake, Scolecophidians still indulge in what Webb et. al. (2001) called binge-feeding: they rapidly ingest a large meal and do so infrequently. If fossoriality and insectivory are primitive for snakes, binge-feeding in Scolecophidians might show that infrequent feeding in snakes did not evolve in concert with the ingestion of large prey (as has been thought by some). But if the fossoriality and insectivory of Scolecophidians are highly derived specializations relative to the primitive snake condition, binge-feeding might be retained from ancestors that ate larger-bodied prey.

There is of course the possibility that all these observed traits evolved after this group split from the other snake lineages.

THE DESCRIPTIONS BELOW

What follows are the bare essentials required to define the various groups named and in accordance with the current Zoological Code (Ride et. al. 1999). Further relevant details can be found in the references cited within this paper.

While species have generally been assigned to relevant genera, in terms of some, this is based solely on diagnoses from the literature and it may later transpire that some species have not been assigned to the correct genus.

Due to a lack of information on some taxa, recently described taxa and the like, not all described species are necessarily dealt with in this paper (see below), although if newly described and recognized taxa are missed, the number will be very small. Those omitted species should as a rule be treated as either unassigned and/or potentially in other perhaps unnamed genera unless the recent descriptions give firm indications as to the relationship of the said taxa to others.

Immediately prior to publishing this paper, a final global audit of the world's known Blindsnakes was conducted (in March 2012) and all known and widely recognized species defined.

This effectively means that omitted taxa not described in late 2011 or 2012 should be assumed to have been treated by myself as synonymous with taxa named herein.

In this paper currently recognized (herein) genera are listed and then effectively defined in the text, either within, or via a recent and effective bibliographic reference.

This paper also presents a new listing including all newly named and pre-existing (available) genera and the species allocated to each, and within the context of their placements within tribes and the like.

TYPHLOPIDAE MERRUM, 1820 DEFINED

About 300 of the approximately 400 currently described species of Scolecophidians are Typhlopids. Most published texts and descriptions refer these species to the three best-known genera, namely *Typhlops* Oppell, 1811, *Ramphotyphlops* Fitzinger, 1843 and *Rhinotyphlops* Fitzinger, 1843.

However other lesser-known genera have been either resurrected or recently named to accommodate groups of divergent taxa.

Those recognized here include:

- Acutotyphlops* Wallach, 1995
- Argyophis* Gray, 1845
- Aspidorhynchus* Fitzinger, 1843
- Cyclotyphlops* Bosch and Ineich, 1994
- Grypotyphlops* Peters, 1881
- Letheobia* Cope, 1869
- Libertadictus* Wells and Wellington, 1983
- Megatyphlops* Broadley and Wallach, 2009
- Pseudotyphlops* Fitzinger, 1843
- Ramphotyphlops* Fitzinger, 1843
- Rhinotyphlops* Fitzinger, 1843
- Typhlops* Oppell, 1811

The two genera, *Xenotyphlops* Wallach and Ineich, 1996 and *Gerrhopilus* Fitzinger, 1843 both are presently recognized as genera for the Madagascar Xenotyphlopidae (two recognized species) and the South-east Asia/New Guinea region's Gerrhopilidae (16 species), two groups previously classified within the Typhlopidae and recently removed to their own families. Both remain within the superfamily Typhlopoidea.

The genus *Gerrhopilus* as recognized to date is herein divided into three in order to properly assign species that had an ancient divergence. In terms of the two main groups this is in the order of about 100 million years ago as found by Vidal et. al. (2010). These two groups are therefore also recognized herein as tribes.

Xenotyphlops is also placed within a monotypic tribe.

Ramphotyphlops, *Acutotyphlops*, *Libertadictus* (and any genera subdivided from these within this paper) and probably *Cyclotyphlops* differ from other Scolecophidians (and other squamates) in that their hemipenes are solid. When folded away, these organs are coiled up like corkscrews. A pair of cloacal sacs called the retrocloacal sacs are also present in these snakes, the function of which remains unknown.

Shea (2001) showed that they did not appear to be used for sperm storage.

Cyclotyphlops males have not been inspected to date, making the comments above about this genus tentative and an educated guess based on the other obvious similarities between this and the other genera,

Exceptional to the above is the taxon *braminus* (herein placed in a new genus), for which all known specimens are parthenogenic females.

Typhlopoid skulls are tiny, often just a few millimeters long. For this reason it's been very difficult to study them. Their skulls and jaws are extremely unusual when compared to other snakes. The elongate lower jaws are entirely toothless with tiny dentary bones (the dentary is usually the biggest bone in the tetrapod jaw). This trait is unique among snakes. The toothed maxillae are ordinarily kept folded away against the roof of the mouth, their tooth rows directed posteriorly and arranged transversely relative to the skull's long axis. Ligaments and muscles, rather than bony contacts, hold the maxillae in this position.

Typhlopids, with their super-mobile maxillae that are normally kept folded up against the palate, can actually move each maxilla independently, and when feeding they seem to rapidly rotate the maxillae left-right-left-right in and out of the mouth, grabbing prey items with the teeth and then dragging them backwards. They are therefore practicing a unique sort of 'maxillary raking' that allows multiple small prey objects to be swiftly pulled into the mouth (Kley and Brainerd 1999, Kley 2001).

Maxillary raking is of course reminiscent of the 'pterygoid walking' used by Macrostomatans Alethinophidians: when ingesting prey, Macrostomatans 'walk' the prey backwards into the mouth by pulling back on the prey with the toothed maxilla and pterygoid on the left side, then with the maxilla and pterygoid on the right, and so on. This is called unilateral feeding, and a reasonable amount of literature has been devoted to its function and

origin. Unlike Macrostomatans though, Typhlopids do not use their toothless palatal bones in transporting prey, and other details of the feeding styles are also very different from those of Macrostomatans. For these reasons, Kley (2001) favoured the idea that unilateral feeding is unique to Alethinophidians, and was not present in the snake common ancestor. But this contradicts another scenario (Lee et. al. 1999) where unilateral feeding was inferred to be primitive for the entire snake suborder.

This description also applies for the Xenotyphlopidae and the Gerrhopilidae.

XENOTYPHLOPIDAE VIDAL ET. AL., 2010 DEFINED

Wallach and Ineich (1996) erected the genus *Xenotyphlops* to reflect the distinctness of this blind snake group, now placed in the family Xenotyphlopidae.

It shared some peculiar characteristics typical of the Leptotyphlopidae (e.g., single enlarged anal shield, absence of a tracheal lung, cranially positioned heart with long heart-liver gap, heavily vascularized, unicameral right lung lacking avascular terminal portion, and type G bronchial foramina). However, the majority of characters corroborated its inclusion within the Typhlopidae (e.g., dentigerous maxilla (see above) and edentulous dentary, 20 midbody scale rows, costal/vertebral ratio greater than 1.0, a single pelvic element, left liver lobe forming anterior extension, and unipartite liver). On the other hand, some further characters suggested a relationship to the genera *Rhinotyphlops* and *Letheobia* *fide*, such as the lack of a visible eye, reduction of most head shields, T-0 supralabial imbrication pattern (no supralabials overlap the scales above), corneal cutting edge on rostral, inferiorly located nostrils, elongated body with uniform diameter throughout, and absence of scale row reduction, pigmentation and apical spine. Additionally, a unique Scolecophidian feature was described: soft, flexible cephalic papillae on the rostral shield (Wallach and Ineich, 1996: Fig. 1).

There are only two described species within the family (tribe Xenotyphlopini defined herein) and genus *Xenotyphlops*. Both species are very similar.

GERRHOPILIDAE VIDAL ET. AL., 2010 DEFINED

The genus *Gerrhopilus* was originally defined by Fitzinger in 1843, by the presence of gland-like structures 'peppered' over the scales of the head (minimally the rostral and nasals, but often other scales on the head and chin). A divided preocular and/or ocular is common and all species have overlap of the preocular (or subpreocular when present) by the second supralabial (except in the species *G. tindalli*). Vidal et. al. (2010) created the family Gerrhopilidae as monotypic for the genus *Gerrhopilus* as then defined. In most other respects the group shares affinities with the Typhlopids, which is the group they were formerly placed in, being phylogenetically basal to both the Xenotyphlopids and the Typhlopids.

The genus *Gerrhopilus* is subdivided in this paper to form two tribes and three genera, the new ones being formally named herein.

LEPTOTYPHLOPOIDEA SUPERFAMILY NOV.

Diagnosis: By contrast to the Typhlopids and other groups diagnosed above, in the Leptotyphlopids, the

upper jaws are entirely toothless. This trait is unique among snakes (properly prepared skulls of these snakes possess small, ventrally projecting pegs on the maxillae, but they are not teeth nor do they seem to function as pseudo-teeth), and their maxillae are tightly bound to the rest of the skull and relatively immobile. In several Old World species the skull roof bones are strongly reduced and even absent. The lower jaws are only very loosely connected to the rest of the skull, and are supported by exceptionally long, slender quadrates that articulate with the braincase by way of long, sliding articulations. Each lower jaw is short and robust. By way of example, in *Leptotyphlops dulcis* there are just four or five teeth in each dentary. The unusual shape of the dentary, it is strongly convex on its lateral side, means that the teeth are arranged almost transversely, rather than in a line parallel to the skull's long axis. A highly mobile intramandibular joint separates the conjoined dentary-splenic unit from the post-dentary bones, the rounded intramandibular facet allowing the anterior half of the jaw to rotate extensively relative to the posterior half. Where the two dentaries meet along the midline, a robust cartilaginous linkage prevents the dentaries from spreading apart, but does allow them to rotate.

Leptotyphlopids, with immobile maxillae and flexible lower jaws that have short, laterally convex dentaries, use a bizarre 'mandibular raking' method to get prey into the mouth: the anterior part of the lower jaw is rapidly rotated about the intramandibular joint, the transversely oriented teeth grabbing prey and pulling them backwards.

LEPTOTYPHLOPIDAE STEJNEGER, 1892 DEFINED

The diagnosis for the family is the same as that use for the superfamily.

Currently recognized genera in the Leptotyphlopidae include:

Epacrophis Hedges, Adalsteinsson and Branch, 2009

Epictia Gray, 1845

Leptotyphlops Fitzinger, 1843

Mitophis Hedges, Adalsteinsson and Branch, 2009

Myriopholis Hedges, Adalsteinsson and Branch, 2009

Namibiana Hedges, Adalsteinsson and Branch, 2009

Rena Baird and Girard, 1853

Rhinoleptus Orejas-Miranda, Roux-Estève and Guibé, 1970

Siagonodon Peters, 1881

Tetracheilostoma Jan, 1861

Trilepida Hedges, 2011

ANOMALEPIDIDOIDEA SUPERFAMILY NOV.

Diagnosis: These are a neotropical group of blindsnakes with numerous anatomical differences from the other main groups.

They are separated from Typhlopoidea and Leptotyphlopidoidea (with the same diagnosis as Leptotyphlopidae) most simply by the presence of two (rarely three) anal shields, versus one in Leptotyphlopidae and three to five in Typhlopoidea. Also Anomalepidids are separated from the other groups of blindsnakes by the presence of teeth on both the upper and lower jaws.

The mechanics of feeding remain unstudied in Anomalepidids but their typhlopoid-like maxillae suggest that they also practice maxillary raking as described above.

Furthermore most have more than 20 mid-body scale rows encircling the body whereas all New World Leptotyphlopids have 14 and all South American Typhlopoidea have 20 or fewer.

Finally and with the exception of the genus *Anomalepis* all species have a distinct colour arrangement in that the body is uniformly dark in colour (black or dark brown), but the head and often at least parts of the tail are light in colour, being usually white, yellow or pink. *Anomalepis* is usually just uniformly coloured.

In all species of Anomalepididoidea the snout is bluntly rounded in shape and in all genera except *Typhlophis* the scales surrounding the snout are somewhat enlarged. These enlarged scales not only reduce friction between the snake's head and the soil when burrowing, but they also house numerous pressure sensitive sensory organs. The tail is universally short in all species, being 1-3.4 per cent of the snake's total length and may terminate in sharp needle-like spine (Genus *Liotyphlops* and *Typhlophis*) or more bluntly as in other snakes (*Anomalepis* and *Helminthophis*).

Unique anatomical features include an "M-shaped" hyoid, as opposed to the usual "V-shaped" or "Y-shaped" structure seen in other snakes, a relatively short tongue, and a pair of unusual orbital bones that are involved in the suspension of the upper jaws. In these snakes the so-called "orbital bones" actually have nothing to do with the formation of the bony orbit.

Some species within this family retain vestiges of the pelvic girdle, while others apparently do not.

ANOMALEPIDIDAE TAYLOR, 1937 DEFINED

The diagnosis for the family is the same as for the superfamily.

Currently recognized genera within this family are:

Anomalepis Jan, 1860

Typhlophis Fitzinger, 1843

Helminthophis Peters, 1860

Liotyphlops Peters, 1861

FAMILY TYPHLOPIDAE MERRUM, 1820

TRIBE TYPHLOPINI TRIBE NOV.

(Terminal taxon: *Anguis lumbricalis* Linnaeus, 1758)

(Known in most contemporary texts as *Typhlops lumbricalis*).

Diagnosis: Also see for each genus defined below to separate from the genus *Typhlops*:

The blindsnake genus *Typhlops* as recognized to date is cosmopolitan in distribution, and occurs primarily in tropical regions (Pough, et al., 2003; Zug, et al., 2001). Most species are small (10-30 cm), have tubular-shaped bodies, reduced eyes, and are pinkish or brownish in coloration. They burrow in soil and feed primarily on social insects (ants, termites) and their larvae.

However the genus as now recognized herein is restricted to the West Indies region and is in turn subdivided into four main species groups, all defined herein as subgenera.

The nominate species group (subgenus *Typhlops*) is separated from similar species by the following suite of characters: 20 scale rows anteriorly, reducing posteriorly to 18 scale rows, low mid-dorsal scale counts (270-350), usually a single preocular contacting with third supralabial only and usually two postoculars. The snout is usually rounded in dorsal and lateral views, there is a narrow oval rostral in dorsal view, weakly divergent post-nasal pattern and small parietals.

Diagnostic of this genus and all other blind snake genera within this paper, formerly referred to this (formerly cosmopolitan) genus are the fact that the prefrontals are fused with large supranasal plates that meet the frontal behind the rostral.

The genus *Altmantiphlops* gen. nov. is separated from other species within *Typhlops* or formerly placed within the genus by having a partially divided nasal shield and the second and third supralabials in contact with the preocular, scale rows usually 20-20-20 or 18-18-18.

Distribution: The tribe is distributed in the West Indies, Central and South America, including the far south of North America.

Content: *Typhlops* Hemprich, 1820, *Altmantiphlops* gen. nov. (see below).

GENUS *TYPHLOPS* HEMPRICH, 1820

Type species: *Anguis lumbricalis* Linnaeus, 1758

Diagnosis: The blindsnake genus *Typhlops* as recognized to date has been cosmopolitan in distribution, and occurs primarily in tropical regions (Pough, et al., 2003; Zug, et al., 2001). Most species are small (10-30 cm), have tubular-shaped bodies, reduced eyes, and are pinkish or brownish in coloration. They burrow in soil and feed primarily on social insects (ants, termites) and their larvae.

However the genus as now recognized herein is restricted to the West Indies region and is in turn subdivided into four main species groups, all defined herein as subgenera.

The nominate species group (subgenus *Typhlops*) is separated from similar species by the following suite of characters: 20 scale rows anteriorly, reducing posteriorly to 18 scale rows, low mid-dorsal scale counts (270-350), usually a single preocular contacting with third supralabial only and usually two postoculars. The snout is usually rounded in dorsal and lateral views, there is a narrow oval rostral in dorsal view, weakly divergent post-nasal pattern and small parietals.

Diagnostic of this genus and all other blind snake genera within this paper, formerly referred to this (formerly cosmopolitan) genus are the fact that the prefrontals are fused with large supranasal plates that meet the frontal behind the rostral.

The genus *Altmantiphlops* gen. nov. is separated from other species within *Typhlops* or formerly placed within the genus by having a partially divided nasal shield and the second and third supralabials in contact with the preocular, scale rows usually 20-20-20 or 18-18-18.

Distribution: The genus as now recognized herein is restricted to the West Indies region.

Content: See for each subgenus.

SUBGENUS *TYPHLOPS* HEMPRICH, 1820

Type species: *Anguis lumbricalis* Linnaeus, 1758

Diagnosis: The genus as now recognized herein is restricted to the West Indies region and is in turn subdivided into four main species groups, all defined herein as subgenera.

The nominate species group (subgenus *Typhlops*) is separated from similar species by the following suite of characters: 20 scale rows anteriorly, reducing posteriorly to 18 scale rows, low mid-dorsal scale counts (270-350), usually a single preocular contacting with third supralabial only and usually two postoculars. The snout is usually rounded in dorsal and lateral views, there is a narrow oval rostral in dorsal view, weakly divergent post-nasal pattern and small parietals.

Diagnostic of this genus and all other blind snake genera within this paper, formerly referred to this (formerly cosmopolitan) genus are the fact that the prefrontals are fused with large supranasal plates that meet the frontal behind the rostral.

Mosestiphlops subgen. nov. are separated from other *Typhlops* by the following suite of characters: Rounded snout, rather depressed and strongly projecting with lateral nostrils. The rostral is about a third of the width of the head, extending to the level of the eyes, with the nostril between two nasals, the anterior of which is in contact with the first and second labials. Praeocular present, a little narrower than the nasal or the ocular, in contact with the third labial only; eyes are distinct; the upper head scales are scarcely enlarged, four upper labials. The diameter of the body is usually 40-50 times in the total length. The tail is as long as broad, or a little longer than broad and terminates in a blunt spine. 24 scale rows around the body, usually blackish brown above and below, uniform or with a few of the scales of the mid ventral row whitish; the lower surfaces of the snout and anal region are usually pale or white.

Dannytyphlops subgen. nov. are separated from other *Typhlops* species by the following suite of characters: Generally larger as adults than other *Typhlops* species, getting up to 370 mm. The preocular contacts supralabials 2 and 3, which is a characteristic of this subgenus and not found in any other *Typhlops* species.

This subgenus is further separated from other *Typhlops* species by their broadly angled preocular (93-125°) and broad rostral scale (RW1/RL1 0.81-1.08).

There are 351-537 mid dorsal scales, 20-24 mid-dorsal scale rows.

Acetyphlops subgen. nov. is separated from all other *Typhlops* species by the following characteristics:

Nasal suture complete, contacting rostral, subocular present, scale rows usually 18-18-18, dorsals 487-563. The subgenus is monotypic for the type species.

Distribution: The West Indies region.

Content of subgenus *Typhlops*: *Typhlops* (*Typhlops*) *lumbricalis* (Linnaeus, 1758) (Type species), *T. (Typhlops) agoralionis* Thomas and Hedges, 2007, *T. (Typhlops) capitulatus* Richmond, 1964, *T. (Typhlops) eperopeus* Thomas and Hedges, 2007, *T. (Typhlops) gonavensis* Richmond, 1964, *T. (Typhlops) hectus*

Thomas, 1974, *T. (Typhlops) jamaicensis* (Shaw, 1802), *T. (Typhlops) oxyrhinus* Dominguez and Diaz, 2011, *T. (Typhlops) pachyrhinus* Dominguez and Diaz, 2011, *T. (Typhlops) proancyllops* Thomas and Hedges, 2007, *T. (Typhlops) pusillus* Barbour, 1914, *T. (Typhlops) rostellatus* Stejneger, 1904, *T. (Typhlops) schwartzi* Thomas, 1984, *T. (Typhlops) sulcatus* Cope, 1868, *T. (Typhlops) sylleptor* Thomas and Hedges, 2007, *T. (Typhlops) syntherus* Thomas, 1965, *T. (Typhlops) tetrathyreus* Thomas, 1989, *T. (Typhlops) titanops* Thomas, 1989.

SUBGENUS MOSESTYPHLOPS SUBGEN. NOV.

Type species: *Typhlops platycephalus* Duméril and Bibron, 1844

Diagnosis: This subgenus is separated from other *Typhlops* by the following suite of characters: Rounded snout, rather depressed and strongly projecting with lateral nostrils. The rostral is about a third of the width of the head, extending to the level of the eyes, with the nostril between two nasals, the anterior of which is in contact with the first and second labials. Praeocular present, a little narrower than the nasal or the ocular, in contact with the third labial only; eyes are distinct; the upper head scales are scarcely enlarged, four upper labials. The diameter of the body is usually 40-50 times in the total length. The tail is as long as broad, or a little longer than broad and terminates in a blunt spine. 24 scale rows around the body, usually blackish brown above and below, uniform or with a few of the scales of the mid ventral row whitish; the lower surfaces of the snout and anal region are usually pale or white.

Distribution: The West Indies region.

Etymology: Named in honor of Moses El-Fahkari of Northcote, Melbourne, Victoria, Australia for services to the Melbourne taxi industry.

Content: *T. (Mosestyplops) platycephalus* Duméril and Bibron, 1844 (Type species), *T. (Mosestyplops) annae* Breuil, 1999, *T. (Mosestyplops) catapontus* Thomas, 1966, *T. (Mosestyplops) dominicanus* Stejneger, 1904, *T. (Mosestyplops) granti* Ruthven and Gaige, 1934, *T. (Mosestyplops) guadeloupensis* Richmond, 1966, *T. (Mosestyplops) hypomethes* Hedges and Thomas, 1991, *T. (Mosestyplops) monastus* Thomas, 1966, *T. (Mosestyplops) monensis* Schmidt, 1926, *T. (Mosestyplops) naugus* Thomas, 1966, *T. (Mosestyplops) richardi* Duméril and Bibron, 1844.

SUBGENUS DANNYTYPHLOPS SUBGEN. NOV.

Type species: *Typhlops biminiensis* Richmond, 1955

Diagnosis: Separated from other *Typhlops* species by the following suite of characters: Generally larger as adults than other *Typhlops* species, getting up to 370 mm. The preocular contacts supralabials 2 and 3, which is a characteristic of this subgenus and not found in any other *Typhlops* species.

This subgenus is further separated from other *Typhlops* species by their broadly angled preocular (93-125°) and broad rostral scale (RW1/RL1 0.81-1.08).

There are 351-537 mid dorsal scales, 20-24 mid-dorsal scale rows.

Distribution: The West Indies Region and nearby mainland Central America.

Etymology: Named in honor of Danny El-Fahkari of Northcote, Melbourne, Victoria, Australia for services to the Melbourne taxi industry.

Content: *T. (Dannytyphlops) biminiensis* Richmond, 1955 (Type species), *T. (Dannytyphlops) anchaurus* Thomas and Hedges, 2007, *T. (Dannytyphlops) anousius* Thomas and Hedges, 2007, *T. (Dannytyphlops) arator* Thomas and Hedges, 2007, *T. (Dannytyphlops) caymanensis* Sackett, 1940, *T. (Dannytyphlops) contorhinus* Thomas and Hedges, 2007, *T. (Dannytyphlops) costaricensis* Jimenez and Savage, 1963, *T. (Dannytyphlops) epactius* Thomas, 1968, *T. golyathi* Dominguez and Moreno, 2009, *T. (Dannytyphlops) lehneri* Roux, 1926, *T. (Dannytyphlops) paradoxus* Thomas, 1968, *T. (Dannytyphlops) perimychnus* Thomas and Hedges, 2007, *T. (Dannytyphlops) notorachius* Thomas and Hedges, 2007, *T. (Dannytyphlops) satelles* Thomas and Hedges, 2007, *T. (Dannytyphlops) stadelmani* Schmidt, 1936, *T. (Dannytyphlops) tasymicris* Thomas, 1974, *T. tenuis* (Dannytyphlops) Salvin, 1860, *T. (Dannytyphlops) trinitatus* Richmond, 1965, *T. (Dannytyphlops) tycherus* Townsend, Wilson, Ketzler and Luque-Montes, 2008.

SUBGENUS ACETYPHLOPS SUBGEN. NOV.

Type species: *Typhlops microstomus* Cope, 1866

Diagnosis: Separated from all other *Typhlops* species by the following characteristics:

Nasal suture complete, contacting rostral, subocular present, scale rows usually 18-18-18, dorsals 487-563. The subgenus is monotypic for the type species.

Distribution: The savanna region of the horn of Central America from Merida, Mexico, south to El Paso, Guatemala.

Etymology: Named in honor of Akram (Ace) El-Fahkari of Northcote, Melbourne, Victoria, Australia for services to the Melbourne taxi industry.

Content: *T. (Acetyphlops) microstomus* Cope, 1866.

GENUS ALTMANTYPHLOPS GEN. NOV.

Type species: *Anguis reticulata* Linnaeus, 1758

Diagnosis: Separated from other species within *Typhlops* or formerly placed within the genus by having a partially divided nasal shield and the second and third supralabials in contact with the preocular, scale rows usually 20-20-20 or 18-18-18.

Distribution: They are restricted to mainland South America and adjacent places.

Etymology: Named in honor of David Altman, formerly of Bondi North, NSW, Australia, for services to herpetology, in particular when engaged in numerous field trips with myself at West Head in New South Wales in the 1970's and 1980's when researching Death Adders (*Acanthophis antarcticus*) at a time when very little was known about these snakes.

Content: *Altmantyplops reticulatus* (Linnaeus, 1758) (Type species), *A. amoipira* Rodrigues and Junca, 2002, *A. kirnerae* sp. nov., *A. minuisquamus* Dixon and Hendricks, 1979, *A. brongersmianus* Vanzolini, 1972, *A. paucisquamus* Dixon and Hendricks, 1979, *A. yonenagae* Rodrigues, 1991.

SUBSPECIES *ALTMANTYPHLOPS RETICULATUS WELLSI* SUBSP. NOV.

Holotype: A specimen from Napo, Lagarto Cocha, Ecuador at the United States National Museum of Natural History, Washington (USNM), Specimen number: 196649.

This is a publicly owned facility that allows researchers access to their collection.

Paratypes: Three specimens from Limoncocha Ecuador at the Los Angeles County Museum of Natural History (LACM), specimen numbers, 73343, 74424 and 75181. This is a publicly owned facility that allows researchers access to their collection.

Fourth paratype is a specimen from Esmeraldas, Playa, east of Sua, Ecuador at the Museum of Natural History, University of Kansas, Lawrence (KU), specimen number 142798. This is a publicly owned facility that allows researchers access to their collection.

Diagnosis: The species *Altmantyplops reticulatus* is unique among mainland South American *Altmantyplops* in having a row of 7-9 spines on the asulcate surface of the hemipenes. It is a relatively large species (maximum total length 522 mm) of *Altmantyplops* distinguished from all other western hemisphere *Altmantyplops* by having a white snout and white tail ring; 9 dark pigmented rows of dorsal scales that vary from brown to black; scale rows 20-20-18 in almost all specimens, with the reduction taking place at the posterior (x 87.7% of total dorsals) end of the body.

The subspecies *A. reticulatus wellsi* subsp. nov. is separated from the nominate form by a higher number of dorsal scales; 265-290, versus 239-259 in the nominate form.

Distribution: *A. reticulatus wellsi* subsp. nov. is found in Colombia, Ecuador, Peru and west central Brazil. *A. reticulatus reticulatus* is found in eastern Venezuela, Guyana, Surinam, French Guyana and extreme northeastern Brazil.

Comment: While both forms appear to be specifically distinct, I have refrained from elevating the Western form to a full species pending a more complete sampling of the region between the known populations.

Etymology: Named after Richard Wells, formerly of Sydney, NSW, and Cowra, NSW and now of Lismore, NSW, Australia in recognition of his contribution to the systematics of Australian Blind Snakes including daring to name new genera at a time when other herpetologists (notably Hal Cogger) were merging existing genera, the relevant period being the 1980's (see Wells and Wellington 1985).

SUBGENUS *GOLDSTEINTYPHLOPS* SUBGEN. NOV.

Type species: *Typhlops brongersmianus* Vanzolini, 1972

Diagnosis: Separated from all other species within *Altmantyplops* gen. nov. by the following characters: 11 dorsal scale rows pigmented brown, yellowish brown or reddish brown, snout frequently streaked with dark brown along scale edges (not white); dorsal pigment frequently concentrated near center of scale but occasionally diffuse, tending to appear spotted, reticulated, or lined; nasal cleft incomplete; scale rows usually without

reduction (96%), 20-20-20 (rarely 20-20-19 or 20-20-18); dorsal scales from rostral to tail spine average 232 (all species in subgenus). This subgenus (as defined herein) was until now effectively monotypic for the type species, but within this paper, the various populations of the species are split three ways. The Eastern population remains as *brongersmianus*, while the western is defined herein as *Altmantyplops (Goldsteintyplops) kirnerae* sp. nov.. This species is divided into two subspecies, including the nominate form and *Altmantyplops (Goldsteintyplops) kirnerae wellingtoni* subsp. nov.. The preceding diagnosis covers all three taxa.

Distribution: Cisandean South America between 11 deg. north and 3.5 deg. south.

Etymology: Named in honor of Steven Goldstein, formerly of West Lindfield and more recently of Hornsby, NSW, Australia, for services to herpetology, in particular when engaged in numerous field trips with myself at West Head in New South Wales in the 1970's and 1980's when researching Death Adders (*Acanthophis antarcticus*) at a time when very little was known about these snakes.

Content: *A. (Goldsteintyplops) brongersmianus* Vanzolini, 1972 (Type species), *A. (Goldsteintyplops) kirnerae* sp. nov. (see below).

SPECIES *ALTMANTYPHLOPS (GOLDSTEINTYPHLOPS) KIRNERAE* SP. NOV.

Holotype: A specimen from Loreto, Iquitos, Peru at the American Museum of Natural History, New York, USA (AMNH), specimen number: 53509. This is a publicly owned facility that allows researchers access to their collection.

Paratypes: A specimen from Loreto, Iquitos, Peru at the American Museum of Natural History, New York, USA (AMNH), specimen number 56159; a specimen from Pampa Hermosa, Peru at the American Museum of Natural History, New York, USA (AMNH), specimen number: 56072; a specimen from Rio Bajo, Peru at the American Museum of Natural History, New York, USA (AMNH), specimen number: 56073. This is a publicly owned facility that allows researchers access to their collection.

Diagnosis: This species *A. (Goldsteintyplops) kirnerae* is separated from *A. (Goldsteintyplops) brongersmianus*, by having 225 or more dorsals, versus 223 or less in *A. (Goldsteintyplops) brongersmianus*.

A. (Goldsteintyplops) kirnerae is also separated from *A. (Goldsteintyplops) brongersmianus* by distribution, apparently being disjunctly distributed. *A. (Goldsteintyplops) kirnerae* is found in Peru, Bolivia, central Brazil, Paraguay and Argentina, including the Rio Parana Basin, the latter population being referred to the subspecies *wellingtoni*, formally described below, whereas *A. (Goldsteintyplops) brongersmianus* is found in the Guyana region and nearby north-east Brazil.

Distribution: Colombia, Peru, Bolivia, central Brazil, Paraguay and Argentina, including the Rio Parana Basin, the latter population being referred to the subspecies *wellingtoni*, formally described below.

Etymology: Named after Christine Kirner, of Hawthorn, Victoria, Australia, for herpetology services in Australia.

**SUBSPECIES *ALTMANTYPHLOPS*
(*GOLDSTEINTYPHLOPS*) *KIRNERAE WELLINGTONI*
SUBSP. NOV.**

Holotype: A specimen from Santa Ana, Argentina at the Museo Argentino de Ciencias Naturales, Buenos Aires, Argentina (MACN), specimen number:4695.

This is a publicly owned facility that allows researchers access to their collection.

Paratypes: Two specimens from Cordoba, El Tio, Argentina at the Centro Nacional Investigaciones logicas, Buenos Aires, Argentina, (CNII), specimen reference number:2797.

This is a publicly owned facility that allows researchers access to their collection.

Diagnosis: Similar in most respects to the nominate form, from which it is separated by having a higher number of dorsal rows. The nominate form (*kirnerae*) has 225-245 dorsal rows, versus 242-255 dorsal rows in *wellingtoni*.

A. (Goldsteintyphlops) kirnerae kirnerae is found in regions to the north-east of the Rio Parana Basin as far north as Colombia, while *A. (Goldsteintyphlops) kirnerae wellingtoni* is effectively restricted to the region around the Rio Parana Basin, the latter population being referred to the subspecies *wellingtoni*,

Distribution: Restricted to the Rio Parana Basin, including nearby parts of Brazil, Argentina, Paraguay and Uruguay.

Etymology: Named after Cliff Ross Wellington, now of Woy Woy, NSW, Australia in recognition of his contribution to the systematics of Australian Blind Snakes.

SUBGENUS *COPELANDTYPHLOPS* SUBGEN. NOV.

Type species: *Typhlops paucisquamus* Dixon and Hendricks, 1979

Diagnosis: Separated from other species within *Altmantyplops* gen. nov. by the following suite of characters: 18 scale rows around the body, without reduction; all scale rows pigmented, middorsal scales between rostral and caudal spine 170-190; ventrals, posterior to mental 171(males)-188(females); subcaudals 10-11; postoculars 1/1, parietals 2/2; parietals about twice as long (laterad) as wide, prefrontal, frontal and postparietal scales large, twice to 2.5 times larger than dorsal body scales following postparietal; anterior parietal reaching a point lateral to the eye; rostral narrowest at lower level of nostril; rostral with almost straight edges dorsally gradually tapering towards dorsal tip but rounded somewhat at dorsoposterior tip; nasals almost in medial contact behind rostral; anterior edge of preocular forming an obtuse triangle, the apex slightly above the level of the nostril but not reaching nostril; nasal sutures incomplete; lower edge of nasal suture touching second supralabial; posterior edge of nasal scale contacting second supralabial; third supralabial twice as high as second, with its dorsal apex situated between preocular and ocular shields; fourth supralabial twice as long as third, its upper edge at same level as third; postocular cycloid, similar to body scales following it; preocular in contact with second and third supralabials, but mostly

with third; all scale rows pigmented, but nine dorsalmost rows more pigmented than others; each dorsal scale with a light colored center, ventral scales with light brownish band through middle of scale, leaving anterior and posterior edges with lighter color; snout appears pale straw color with no evidence of dark pigment on trailing edge of nasals and preoculars with brownish pigment; dorsum of tail pigmented as body and without evidence of a light colored tail ring.

Two more recently described species within this subgenus are separated from the type species by dorsal counts and colouration. *Altmantyplops yonenagae* and *A. amoipira* have 259-291 and 212-242 dorsal scale rows respectively. Specimens of *A. yonenagae* are creamy brown, with a conspicuous mid-dorsal line along body extending from posterior part of head to tail. Specimens of *A. amoipira* are less pigmented and the line, mostly inconspicuous, is present only in the anterior third of body in juveniles.

Distribution: Known only from the Brazilian state of Pernambuco.

Etymology: Named in honor of Ben Copeland, formerly of Wahroongah and Oxford Falls, NSW, Australia, for services to herpetology, in particular when engaged in numerous field trips with myself at West Head in New South Wales in the 1970's and 1980's when researching Death Adders (*Acanthophis antarcticus*) at a time when very little was known about these snakes as well as field trips in search of marine reptiles.

Content: *A. (Copelandtyphlops) paucisquamus* Dixon and Hendricks, 1979, *A. (Copelandtyphlops) amoipira* Rodrigues and Junca, 2002, *A. (Copelandtyphlops) yonenagae* Rodrigues, 1991.

TRIBE SMYTHTYPHLOPINI TRIBE NOV.

(Terminal Taxon: *Typhlops (Onychocephalus) obtusus* Peters, 1865)

Diagnosis: The tribe includes the genera, *Smythtyphlops* gen. nov. as defined herein, *Swiletyphlops* gen. nov. as defined herein, *Nintyphlops* gen. nov. as defined herein, *Aspidorhynchus* and *Megatyphlops*, the latter retained herein tentatively as a genus, although there is a strong argument in favor of subsuming *Megatyphlops* into *Aspidorhynchus* as a subgenus.

As a tribe these species are separated from all other Typhlopids by the presence of one right lung and a distinct tracheal lung: These species lack the diagnostic characters of the Australian and Asian genera *Ramphotyphlops*, *Acutotyphlops*, and *Libertadictus* (including new genera and tribes defined herein derived from species formerly assigned to these genera) which are differentiated from all other Scolecophidia by the presence of unique specializations of the male reproductive system in the form of a pair of solid eversible hemipenes with apical awns and a pair of retrocloacal sacs in the posterior coelom (Robb 1960, 1966). In preserved specimens, this hemipenis type is easily recognizable by its corkscrew coiling inside the tail in the retracted state.

Smythtyphlops gen. nov. as defined below, is separated from all other Typhlopids by the following suite of

characters: Prominent snout, rounded with inferior nostrils. Rostral is large and more than half as broad as the head, the portion visible from below as long as broad; nasal semi-divided, the cleft proceeding from the first labial; praeocular present, much narrower than the nasal or the ocular, in contact with the second and third labials; eyes not distinguishable; praefrontal and supraoculars broad; four upper labials. Diameter of the body is 43-50 times in the total length; tail broader than long and ending in a spine. 22-24 scales around the middle of the body. Dorsal scales are brown or blackish, whitish at the base, darker on the sides; lower parts whitish. Attains about 30 cm total length.

Swiletyphlops gen. nov. as defined below is separated from all other snakes formerly placed within the genus *Typhlops*, including *Aspidorhynchus*, *Megatyphlops* and *Letheobia* by the following suite of characters: Prominent snout with obtusely angular horizontal edge and inferior nostrils. Rostral is large, the portion visible from below is as long as it is broad, the nasal is subdivided, the cleft proceeding from the first labial; praeocular present, nearly as broad as the nasal or the ocular, in contact with the second and third labials; eyes not distinguishable; praefrontal, frontal supraoculars and parietals larger than the scales on the body; four upper labials. The diameter of the body is 28 times in the total length; tail is broader than long. 26 scales around the middle of the body, 28 anteriorly; the scales of the middle dorsal row are distinctly larger than the others. Yellowish grey in colour a little lighter inferiorly, above with indistinct darker lines. Attains about 45 cm in total length.

Nintyphlops gen. nov. as defined below is separated from all other Typhlopids by the following suite of characters: Prominent snout, much depressed, cunciform, with rounded edge and inferior nostrils. Rostral narrow, hardly one-third the width of the head, not extending to the level of the eyes; nasal incompletely divided, the cleft proceeding from the second labial; praeocular present, narrower than the nasal, as large as the ocular, in contact with the second and third labials; eyes distinct; supraoculars and parietals larger than the scales on the body; four upper labials; diameter of the body is about 30 times in the total length; tail is broader than long and ends in a spine. Dorsal scales edged with brown, the edges forming eight longitudinal dark lines on the body. Lower parts are white.

Aspidorhynchus was effectively defined by Broadley and Wallach in 2009 under the name *Afrotyphlops* and is paraphrased below.

Aspidorhynchus is an endemic African genus characterized by the following combination of characters: snout more or less rounded in profile, lacking a keratinized edge, T-II or T-X supralabial imbrication pattern, nasal shield incompletely divided and lacking posterior concavity, nostrils directed ventrally, inferior nasal suture contacting first supralabial or rostral, 3-7 postoculars, dorsal rostral broad (greater than 1/2 interocular head width), ventral rostral moderate to narrow (less than 1/2 internarial snout width), well-developed eye with discernible pupil, dorsum pigmented (with lineate or blotched pattern), and vestigial left lung present. Other typical characters include 24-38 midbody

scale rows, robust body (length/width 20-40), and large size (maximum length 350-750 mm).

Megatyphlops was defined by Broadley and Wallach in 2009 and is paraphrased below.

Megatyphlops an endemic African genus characterized by the following combination of characters: snout sharply angular in profile, with a keratinized horizontal edge in adults, supralabial imbrication pattern T-II or T-X, nasal shield incompletely divided and lacking posterior concavity, nostrils directed ventrally, inferior nasal suture contacting first or second supralabial or rostral (*Megatyphlops anomalus*), 3-7 postoculars, dorsal rostral broad (greater than 1/2 interocular head width), ventral rostral broad (greater than 1/2 internarial snout width), well-developed eye with discernible pupil, dorsum pigmented (often with lineate, mottled or blotched pattern), and vestigial left lung present. Other typical characters include 30-44 midbody scale rows, robust body (length/width 17-58), and large size (maximum length 350-950 mm).

Distribution: The distribution of the tribe is centered in Africa.

Etymology: See for *Smythyphlops* gen. nov. below.

Content: *Aspidorhynchus* Fitzinger, 1843, *Megatyphlops* Broadley and Wallach, 2009 *Nintyphlops* gen. nov., *Smythyphlops* gen. nov., *Swiletyphlops* gen. nov.

GENUS SMYTHYTPHLOPS GEN. NOV.

Type species: *Typhlops (Onychocephalus) obtusus* Peters, 1865

Diagnosis: Separated from all other Typhlopids by the following suite of characters: Prominent snout, rounded with inferior nostrils. Rostral is large and more than half as broad as the head, the portion visible from below as long as broad; nasal semi-divided, the cleft proceeding from the first labial; praeocular present, much narrower than the nasal or the ocular, in contact with the second and third labials; eyes not distinguishable; praefrontal and supraoculars broad; four upper labials. Diameter of the body is 43-50 times in the total length; tail broader than long and ending in a spine. 22-24 scales around the middle of the body. Dorsal scales are brown or blackish, whitish at the base, darker to the sides; lower parts whitish. Attains about 30 cm total length.

Distribution: South-east Africa.

Etymology: Named in honor of Michael Smyth of Ringwood, Victoria, Australia for his valuable work in terms of reptile education, with Snakebusters, Australia's best reptiles shows, from the period 2004-2012.

Content: *Smythyphlops obtusus* (Peters, 1865) (Type species).

GENUS SWILETYPHLOPS GEN. NOV.

Type species: *Onychocephalus angolensis* Bocage, 1866

(Known in most contemporary texts as *Typhlops angolensis*, *Aspidorhynchus angolensis* or *Afrotyphlops angolensis*)

Diagnosis: This genus is separated from all other snakes formerly placed within the genus *Typhlops*, including *Aspidorhynchus*, *Megatyphlops* and *Letheobia* by the following suite of characters: Prominent snout with

obtusely angular horizontal edge and inferior nostrils. Rostral is large, the portion visible from below is as long as it is broad, the nasal is subdivided, the cleft proceeding from the first labial; praecocular present, nearly as broad as the nasal or the ocular, in contact with the second and third labials; eyes not distinguishable; praefrontal, frontal supraoculars and parietals larger than the scales on the body; four upper labials. The diameter of the body is 28 times in the total length; tail is broader than long. 26 scales around the middle of the body, 28 anteriorly; the scales of the middle dorsal row are distinctly larger than the others. Yellowish grey in colour a little lighter inferiorly, above with indistinct darker lines. Attains about 45 cm in total length.

Distribution: Angola, West Cameroon, Southern Central African Republic, West Africa, Gabon, Democratic Republic of the Congo (Zaire), Congo, Camerons, West Kenya, Uganda, North Tanzania, North Zambia

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

Content: *Swiletyphlops angolensis* (Bocage, 1866) (Type species), *S. elegans* (Peters, 1868).

GENUS NINTYPHLOPS GEN. NOV.

Type species: *Typhlops cuneirostris* Peters, 1879

Diagnosis: Separated from all other Typhlopids by the following suite of characters: Prominent snout, much depressed, cunciform, with rounded edge and inferior nostrils. Rostral narrow, hardly one-third the width of the head, not extending to the level of the eyes; nasal incompletely divided, the cleft proceeding from the second labial; praecocular present, narrower than the nasal, as large as the ocular, in contact with the second and third labials; eyes distinct; supraoculars and parietals larger than the scales on the body; four upper labials; Diameter of the body is about 30 times in the total length; tail is broader than long and ends in a spine. Dorsal scales edged with brown, the edges forming eight longitudinal dark lines on the body. Lower parts are white.

Distribution: Central east Africa and North-east Africa near the horn of Africa.

Etymology: Named in honor of Dara Nin, of Ringwood, Victoria, Australia for his valuable work in terms of reptile education, with Snakebusters, Australia's best reptiles shows, from the period 2004-2012.

Content: *Nintyphlops cuneirostris* (Peters, 1879) (Type species), *N. calabresii* (Gans and Laurent, 1965), *N. platyrhynchus* (Sternfeld, 1910).

GENUS ASPIDORHYNCHUS FITZINGER, 1843

Type species: *Acontias punctatus* Leach in Bowdich, 1819

Diagnosis: See within the tribe diagnosis above.

Distribution: Centered in Africa.

Content: *Aspidorhynchus punctatus* (Leach, 1819) (Type species), *A. bibronii* (Smith, 1846), *A. blanfordii* (Boulenger, 1889), *A. congestus* (Duméril and Bibron, 1844), *A. forasinii* (Bianconi, 1847), *A. gierrai* (Mocquard, 1897), *A. kaimosae* (Loveridge, 1935), *A. lineolatus* (Jan, 1864), *A. manni* (Loveridge, 1941), *A. nanus* Broadley and Wallach, 2009, *A. nigrocandidus*

(Broadley and Wallach, 2000), *A. punctatus* (Leach, 1819), *A. rondoensis* (Loveridge, 1942), *A. schmidtii* (Laurent, 1956), *A. steinhausi* (Werner, 1909), *A. tanganicanus* (Laurent, 1964), *A. usambaricus* (Laurent, 1964).

GENUS MEGATYPHLOPS BROADLEY AND WALLACH, 2009

Type species: *Onychocephalus mucruso* Peters, 1854

Diagnosis: See within the tribe diagnosis above.

Distribution: Centered in Africa.

Content: *Megatyphlops mucruso* (Peters, 1854) (Type species), *M. anomalus* (Bocage, 1873), *M. brevis* (Scortecci, 1929), *M. schlegelii* (Bianconi, 1847).

TRIBE COTTONTYPHLOPINI TRIBE NOV.

(Terminal taxon) *Typhlops (Onychocephalus) newtoni* Bocage, 1890

Diagnosis: Cottontyphlopini tribe nov. is separated from other typhlopids by the following suite of characters: The tribe is best described as being similar in many respects to Smythytyphlopini (in particular *Aspidorhynchus*) but with the following suite of traits diagnostic for this tribe as defined for each component genus:

For the genus *Letheobia* there is a total lack of a left lung; a rounded snout that's prominent. Rostral very broad, truncated posteriorly; frontal crescentic; supraocular usually transverse, its lateral apex between nasal and ocular, the latter usually separated from the lip by a large subocular; eye not visible; nasal suture arising from first or second labial; mid-body scale rows 20-26; Mid dorsal rows (MD) 418-500, Usually with minimal pigment or colour.

The snakes within the genus *Laidlawtyphlops* would formerly have been diagnosed as *Letheobia*, but can be separated from that genus and other genera described below including species formerly placed within *Letheobia* and *Rhinotyphlops* by the following suite of characters: Snout very prominent, with an acutely angular horizontal keratinised edge on rostral, rostral very large, longer than broad and extending well beyond the level of the eyes, ventrally the rostral more than half width of head at level of nostrils; frontal crescentic, separated from the nasal by two supraoculars, the lower with its lateral apex between nasal and preocular; eye visible beneath the upper anterior edge of the nasal; nasal suture arising from the second labial; scale rows usually 26-24-24; mid dorsal rows 430-586, length to diameter ratio 38-77. Dark brown to black dorsally, slightly lighter below, with a bright yellow or orange vertebral stripe, three to five scales wide, running from the back of the head to about 1 cm before the tail tip.

The snakes of *Wilsontyphlops* would formerly have been diagnosed as *Letheobia*, but can be separated from that genus and other genera described below including species formerly placed within *Letheobia* and *Rhinotyphlops* by the following suite of characters: Snout with an angular horizontal edge. Rostral very broad, truncated posteriorly; frontal trapezoid, subhexagonal or crescentic, usually separated from nasals by supraoculars, or just touching the nasals, the supraoculars of which are oblique, with lateral apex

wedged between nasal and ocular, which is separated from the subocular by one or two temporals eye not visible; nasal suture rising from second labial; scale rows 22-22-22, 22-20-20, 20-20-20 or 22-20-22; mid dorsal rows 540-726; vertebrae 377-465; length to diameter ratio 70-107. Tending towards being colourless.

The snakes of *Pillotyphlops* would formerly have been diagnosed as *Letheobia*, but can be separated from that genus and other genera described below including species formerly placed within *Letheobia* and *Rhinotyphlops* by the following suite of characters: Snout with an angular horizontal edge. Rostral very broad, truncated posteriorly; frontal very broad, subhexagonal, in contact with nasals; supraocular transverse, its lateral apex between nasal and the small ocular, whose lateral apex is wedged between the preocular and the very small subocular; eye not visible; nasal suture arising from second labial; scale rows 18-18-18 or 20-20-20; mid dorsal rows 490-607; vertebrae 333-394; length to diameter ratio 43-83. Lightly pigmented with pale brown above, colourless below.

Snakes of the genus *Rhinotyphlops* are best defined as similar to *Aspidorhynchus* but with the following suite of traits diagnostic for this genus: Large bodied and heavily pigmented snakes with relatively well-developed eyes, a high number of scale rows and a vestigial left lung.

The snakes in the genus *Cottotyphlops* gen. nov. have been variously placed in genera *Typhlops*, *Onychocephalus*, *Letheobia* and *Rhinotyphlops* and share characters common to all.

They are separated from all other Blind Snake Genera, including those just named by the following unique suite of characters: Snout strongly projecting, with a sharp horizontal edge; nostrils inferior. Rostral is very large, its posterior border broadly rounded (as opposed to truncate in other similar species) and in contact with the very broad praefrontal; nostril touching the rostral; praecular present, large, in contact with the second and third labials; and subequal in size to the subocular, by which it is separated from the labials in contact with the nasal; the ocular is small; eyes not distinguishable; four upper labials; diameter of the body is 74 times the total length; tail is as long as broad and ends in a spine. 28 rows around the body (as opposed to 22 in most similar species). The colour is a uniform yellowish-white.

Whybrowtyphlops gen. nov. is separated from all other Blindsnakes by the following suite of characters: A rounded snout that is only feebly projecting and with lateral nostrils. The rostral is about one third to one fourth of the width of the head; nostril between two nasals, the anterior in contact with the first and second labials; praecular present, nearly as broad as the ocular, in contact with the third labial only; eyes hidden; upper head scales enlarged; four upper labials. Diameter of the body is 35-45 times in the total length; tail is either broader than long and ends in a spine or as broad as long and does not end in a spine. 18 scales around the body. Colouration is either brownish and lighter below, with the snout and lower surface of the tail white or alternatively separated from all other African Typhlopids by having a unicameral tracheal lung.

The snakes within the genus *Trioanotyphlops* gen. nov. would previously have been diagnosed as being within the genus *Rhinotyphlops*. They are most readily separated from that genus by having 20-22 scale rows around the body, as opposed to 24-30 in *Rhinotyphlops*.

Trioanotyphlops gen. nov. is further separated from *Rhinotyphlops* by the fact that the tail does not end in a terminal spine. In *Trioanotyphlops* gen. nov. the diameter of the body is 54-60 times in the total length versus 30-52 times in *Rhinotyphlops*.

The species within *Trioanotyphlops* gen. nov. are further separated from all other blind snakes by the following suite of characters: snout very prominent, obtusely pointed, with a sharp cutting edge and inferior nostrils. Head shields are granulated; rostral is very large, both upper and lower parts longer than broad; nasal cleft extending from the first labial to the nostril, which is close to the rostral; praecular present, as large as the ocular, but much smaller than the nasal which is sometimes divided, in contact with the second and third labials; eyes not distinguishable; praefrontal and supraoculars larger than the scales on the body; four upper labials; diameter of the body is 54-60 times in the total length; tail slightly longer than broad; without a terminal spine. 20-22 scale rows around the mid-body.

The genus *Gleesontyphlops* gen. nov. is separated from all other Blindsnakes by the following suite of characters: The snout is rounded and very prominent; nostrils inferior. The rostral is a third of the width of the head, extending to between the eyes; nasal is completely divided, the cleft proceeding from the second labial and not extending to the upper surface of the snout. The praecular is a little narrower than the nasal, a little broader than the ocular; eyes are just distinguishable; praefrontal, frontal and interparietal scarcely enlarged, a little smaller than the supraocular; four upper labials, third and fourth in contact with the ocular, second and third with the praecular. Diameter of the body is 45 times in the total length; tail is as long as it is broad, ending in an obtuse spine. 22 rows of scales around the midbody. The colouration is dark above, scales edged with whitish and scattered white spots; whitish below, each scale brown at the base.

Distribution: The distribution of the tribe is centered in Africa and nearby, including the Middle East.

Content: *Cottotyphlops* gen. nov., *Laidlawtyphlops* gen. nov., *Letheobia* Cope, 1868, *Pillotyphlops* gen. nov., *Rhinotyphlops* Fitzinger, 1843, *Trioanotyphlops* gen. nov., *Wilsontyphlops* gen. nov., *Whybrowtyphlops* gen. nov.

GENUS *LETHEOBIA* COPE, 1868

Type species: *Letheobia pallida* Cope, 1868

Diagnosis: Essentially as for *Aspidorhynchus* but with the following suite of traits diagnostic for this genus: a total lack of a left lung; a rounded snout that's prominent. Rostral very broad, truncated posteriorly; frontal crescentic; supraocular usually transverse, its lateral apex between nasal and ocular, the latter usually separated from the lip by a large subocular; eye not visible; nasal suture arising from first or second labial; mid-body scale rows 20-26; mid dorsal scales 418-500, usually with minimal pigment or colour.

Distribution: Africa.

Content: *Letheobia pallida* Cope, 1868, 2007 (Type species), *L. caeca* (Duméril, 1856), *L. erythraea* (Scortecci, 1928), *L. largeni* Broadley and Wallach, *L. pauwelsi* Wallach, 2005, *L. pembana* Broadley and Wallach, 2007, *L. swahilica* (Broadley and Wallach, 2007), *L. toritensis* Broadley and Wallach, 2007, *L. uluguruensis* (Barbour and Loveridge, 1928).

GENUS LAIDLAWTYPHLOPS GEN. NOV.

Type species: *Typhlops (Letheobia) unitaeniatus* Peters, 1878

Diagnosis: The snakes of *Laidlawtyphlops* gen. nov. would formerly have been diagnosed as *Letheobia*, but can be separated from that genus and other genera described below including species formerly placed within *Letheobia* and *Rhinotyphlops* by the following suite of characters: Snout very prominent, with an acutely angular horizontal keratinised edge on rostral, rostral very large, longer than broad and extending well beyond the level of the eyes, ventrally the rostral more than half width of head at level of nostrils; frontal crescentic, separated from the nasal by two supraoculars, the lower with its lateral apex between nasal and preocular; eye visible beneath the upper anterior edge of the nasal; nasal suture arising from the second labial; scale rows usually 26-24-24; mid dorsal rows 430-586, length to diameter ratio 38-77. Dark brown to black dorsally, slightly lighter below, with a bright yellow or orange vertebral stripe, three to five scales wide, running from the back of the head to about 1 cm before the tail tip.

Distribution: Africa.

Etymology: Named in honor of Michael Laidlaw, of Ringwood, Victoria, Australia for his valuable work in terms of reptile education, with Snakebusters, Australia's best reptiles shows, from the period 2004-2012.

Content: *Laidlawtyphlops unitaeniata* (Peters, 1878) (Type species), *L. ataeniata* (Boulenger, 1912), *L. obtusa* (Peters, 1865), *L. somalica* (Boulenger, 1895), *L. scortecci* (Gand and Laurent, 1965).

GENUS WILSONTYPHLOPS GEN. NOV.

Type species: *Typhlops gracilis* Sternfeld, 1910

Diagnosis: The snakes of *Wilsontyphlops* gen. nov. would formerly have been diagnosed as *Letheobia*, but can be separated from that genus and other genera described below including species formerly placed within *Letheobia* and *Rhinotyphlops* by the following suite of characters: Snout with an angular horizontal edge. Rostral very broad, truncated posteriorly; frontal trapezoid, subhexagonal or crescentic, usually separated from nasals by supraoculars, or just touching the nasals, the supraoculars of which are oblique, with lateral apex wedged between nasal and ocular, which is separated from the subocular by one or two temporals eye not visible; nasal suture rising from second labial; scale rows 22-22-22, 22-20-20, 20-20-20 or 22-20-22; mid dorsal rows 540-726; vertebrae 377-465; length to diameter ratio 70-107. Colourless.

Distribution: Africa.

Etymology: Named in honor of Andrew Wilson of Doncaster, Victoria, Australia, for his valuable work in terms of reptile education, with Snakebusters, Australia's

best reptiles shows, from the period 2004-2010.

Content: *Wilsontyphlops gracilis* (Sternfeld, 1910) (Type species), *W. buchholzi* (Werner, 1899), *W. debilis* (Joger, 1990), *W. decorosa* (Buchholz and Peters, 1875), *W. graueri* (Sternfeld, 1912), *W. jubana* (Broadley and Wallach, 2007), *W. kibarae* (De Witte, 1953), *W. rufescens* (Chabanaud, 1916), *W. sudanensis* (Schmidt, 1923).

GENUS PILLOTTYPHLOPS GEN. NOV.

Type species: *Onychocephalus (Letheobia) lumbriciformis* Peters, 1874

Diagnosis: The snakes of *Pillotttyphlops* gen. nov. would formerly have been diagnosed as *Letheobia*, but can be separated from that genus and other genera described below including species formerly placed within *Letheobia* and *Rhinotyphlops* by the following suite of characters: Snout with an angular horizontal edge. Rostral very broad, truncated posteriorly; frontal very broad, subhexagonal, in contact with nasals; supraocular transverse, its lateral apex between nasal and the small ocular, whose lateral apex is wedged between the preocular and the very small subocular; eye not visible; nasal suture arising from second labial; scale rows 18-18-18 or 20-20-20; Mid dorsal rows 490-607; vertebrae 333-394; Length to diameter ratio 43-83. Lightly pigmented with pale brown above, colourless below.

Distribution: Africa.

Etymology: Named in honor of Christian Pillott, formerly of Ringwood, Victoria, Australia, now of Airlie Beach, Queensland, Australia for his valuable work in terms of reptile education, with Snakebusters, Australia's best reptiles shows, from the period 2004-2010.

Content: *Pillotttyphlops lumbriciformis* (Peters, 1874) (Type species), *P. wittei* (Roux-Estève, 1974).

GENUS WHYBROWTYPHLOPS GEN. NOV.

Type species: *Typhlops caecatus* Jan, 1864

Diagnosis: *Whybrowtyphlops* gen. nov. is separated from all other Blindsnakes by the following suite of characters: A rounded snout that is only feebly projecting and with lateral nostrils. The rostral is about one third to one fourth of the width of the head; nostril between two nasals, the anterior in contact with the first and second labials; praecocular present, nearly as broad as the ocular, in contact with the third labial only; eyes hidden; upper head scales enlarged; four upper labials. Diameter of the body is 35-45 times in the total length; tail is either broader than long and ends in a spine or as broad as long and does not end in a spine. 18 scales around the body. Colouration is either brownish and lighter below, with the snout and lower surface of the tail white or alternatively is colorless. These snakes are separated from all other African Typhlopids by having a unicameral tracheal lung.

Etymology: Named in honor of Peter Whybrow of Taggerty, Victoria, Australia for his valuable work in terms of reptile education, with Snakebusters, Australia's best reptiles shows, from the period 2004-2012.

Distribution: Ghana, Cameroon, Africa.

Content: *Whybrowtyphlops caecatus* (Jan, 1864) (Type species), *W. zenkeri* (Sternfeld, 1908).

SUBGENUS JUDYWHYBROWEA SUBGEN. NOV.

Type species: *Typhlops zenkeri* Sternfeld, 1908

Diagnosis: *Judywhybrowea* subgen. nov. is separated from the nominate subgenus by the following suite of characters: In *Judywhybrowea* subgen. nov. the tail is as broad as it is long and does not end in a spine, versus one that is longer than broad and ends in a spine in *Whybrowtyphlops* subgen. nov.. *Judywhybrowea* subgen. nov. is colorless versus brownish and lighter below, with the snout and lower surface of the tail white in the nominate subgenus *Whybrowtyphlops* subgen. nov.

Distribution: Cameroon, Africa.

Etymology: Named in honor of Judy Whybrow of Taggerty, Victoria, Australia for her valuable work in terms of reptile education, with Snakebusters, Australia's best reptiles shows, from the period 2004-2012.

Content: *Whybrowus (Judywhybrowea) zenkeri* (Sternfeld, 1908) (Type species).

SUBGENUS WHYBROWTYPHLOPS SUBGEN. NOV.

Type species: *Typhlops caecatus* Jan, 1864

Diagnosis: *Judywhybrowea* subgen. nov. is separated from the nominate subgenus by the following suite of characters: In *Judywhybrowea* subgen. nov. the tail is as broad as it is long and does not end in a spine, versus one that is longer than broad and ends in a spine in *Whybrowtyphlops* subgen. nov..

Judywhybrowea subgen. nov. is colorless versus brownish and lighter below, with the snout and lower surface of the tail white in the nominate subgenus *Whybrowtyphlops* subgen. nov.

Distribution: Ghana, Africa.

Etymology: Named in honor of Peter Whybrow of Taggerty, Victoria, Australia for his valuable work in terms of reptile education, with Snakebusters, Australia's best reptiles shows, from the period 2004-2012.

Content: *Whybrowtyphlops (Whybrowtyphlops) caecatus* (Jan, 1864).

GENUS RHINOTYPHLOPS FITZINGER, 1843

Type species: *Typhlops lalandei* Schlegel, 1839

Diagnosis: Essentially as for *Aspidorhynchus* but with the following suite of traits diagnostic for this genus: Large bodied and heavily pigmented snakes with relatively well-developed eyes, a high number of scale rows and a vestigial left lung.

Distribution: Africa.

Content: *Rhinotyphlops lalandei* (Schlegel, 1839) (Type species), *R. boylei* (FitzSimons, 1932), *R. praeocularis* (Stejneger, 1894) *R. schinzi* (Boettger, 1887), *R. stejnegeri* (Loveridge, 1931).

GENUS GLEESONTYPHLOPS GEN. NOV.

Type species: *Typhlops leucostictus* Boulenger, 1898

Diagnosis: The genus *Gleesontyphlops* gen. nov. is separated from all other Blindsnakes by the following suite of characters: The snout is rounded and very prominent; nostrils inferior. The rostral is a third of the width of the head, extending to between the eyes; nasal is completely divided, the cleft proceeding from the second labial and not extending to the upper surface of the snout. The praeocular is a little narrower than the

nasal, a little broader than the ocular; eyes are just distinguishable; praefrontal, frontal and interparietal scarcely enlarged, a little smaller than the supraocular; four upper labials, third and fourth in contact with the ocular, second and third with the praeocular. Diameter of the body is 45 times in the total length; tail is as long as it is broad, ending in an obtuse spine. 22 rows of scales around the midbody. The colouration is dark above, scales edged with whitish and scattered white spots; whitish below, each scale brown at the base.

Distribution: Known only from Liberia.

Etymology: Named in honour of Bob Gleeson of Mount Annan in New South Wales, Australia, for his many contributions to herpetology including in running the Macarthur Herpetological Society in its early years in the late 1990's with Julia Carr of Tahmoor, NSW, Australia.

Content: *Gleesontyphlops leucostictus* (Boulenger, 1898).

GENUS COTTONTYPHLOPS GEN. NOV.

Type species: *Typhlops (Onychocephalus) newtoni* Bocage, 1890

Diagnosis: The species of this genus have been variously placed in genera *Typhlops*, *Onychocephalus*, *Letheobia* and *Rhinotyphlops* and share characters common to all.

They are separated from all other Blind Snake Genera, including those just named by the following unique suite of characters: Snout strongly projecting, with a sharp horizontal edge; nostrils inferior. Rostral is very large, its posterior border broadly rounded (as opposed to truncate in other similar species) and in contact with the very broad praefrontal; nostril touching the rostral; praeocular present, large, in contact with the second and third labials; and subequal in size to the subocular, by which it is separated from the labials in contact with the nasal; the ocular is small; eyes not distinguishable; four upper labials; diameter of the body is 74 times the total length; tail is as long as broad and ends in a spine. 28 rows around the body (as opposed to 22 in most similar species). The colour is a uniform yellowish-white.

Distribution: Sao Tome Island, Gulf of Guinea, West Africa.

Etymology: Named in honor of Tom Cotton of Ringwood, Victoria, Australia for his valuable work in terms of reptile education, with Snakebusters, Australia's best reptiles shows, from the period 2004-2012.

Content: *Cottontyphlops newtoni* (Bocage, 1890) (Type species), *C. feae* (Boulenger, 1906).

GENUS TRIOANOTYPHLOPS GEN. NOV.

Type species: *Onychocephalus simoni* Boettger, 1879

Diagnosis: The snakes in this genus would previously have been diagnosed as being within the genus *Rhinotyphlops*. They are most readily separated from that genus by having 20-22 scale rows around the body, as opposed to 24-30 in *Rhinotyphlops*.

Trioanotyphlops gen. nov. is further separated from *Rhinotyphlops* by the fact that the tail does not end in a terminal spine. In *Trioanotyphlops* gen. nov. the diameter of the body is 54-60 times in the total length versus 30-52 times in *Rhinotyphlops*.

The species within *Trioanotyphlops* gen. nov. are further separated from all other blind snakes by the following suite of characters: snout very prominent, obtusely pointed, with a sharp cutting edge and inferior nostrils. Head shields are granulated; rostral is very large, both upper and lower parts longer than broad; nasal cleft extending from the first labial to the nostril, which is close to the rostral; praeocular present, as large as the ocular, but much smaller than the nasal which is sometimes divided, in contact with the second and third labials; eyes not distinguishable; praefrontal and supraoculars larger than the scales on the body; four upper labials; diameter of the body is 54-60 times in the total length; tail slightly longer than broad; without a terminal spine. 20-22 scale rows around the mid-body.

Distribution: Middle-east and the northern half of Africa.

Etymology: Named in honor of Christopher Trioano of Croydon, Victoria, Australia for his valuable work in terms of reptile education, with Snakebusters, Australia's best reptiles shows, from the period 2004-2012.

Content: *Trioanotyphlops simoni* (Boettger, 1879) (Type species), *T. crossii* (Boulenger, 1893), *T. episcopus* (Franzen and Wallach, 2002), *T. leucocephalus* (Parker, 1930).

TRIBE RONHOSERINI TRIBE NOV.

(Terminal taxon: *Onychocephalus arenarius* Grandidier, 1872)

(Known in most contemporary texts as *Typhlops arenarius*)

Diagnosis: This group of blindsnakes are confined to the Madagascar region and Islands in the Indian Ocean.

They are separated from all other Blind Snakes by their generic descriptions as follows:

The genus *Ronhosertyphlops* gen. nov. is separated from similar species, including all other Typhlopids by the following suite of characters: 20-24 mid-body rows, coloration may be bicolored with distinct separation of dorsal and ventral colors or unicolored, lateral head shape may be not depressed and domed or depressed and obtusely pointed, dorsal rostral shape is either circular or parallel, lateral rostral shape may be angled or curved, position of eyes is either on the praefrontal or the frontal-praeofrontal suture, there may be "X"-shaped cross on head, lateral tongue papillae may be present or absent, right systemic arch junction cranial of heart tip 3-6% total lung midpoint 28-35%, right lung midpoint 38-46% posterior tip of lung 47-62% and total kidney length 5-9%.

The genus *Eippertyphloea* gen. nov. can be distinguished from all other Typhlopidae by the combination of 24-28 midbody scale rows, 360-450 total mid-dorsal scales, a sometimes slightly trilobed snout in dorsal profile, a rounded snout in lateral profile, in some specimens a trans-ventral supralabial imbrication pattern, transversely enlarged frontal, postfrontal and interparietal scales, inferior nasal suture contacting second supralabial, and an incomplete superior nasal suture.

The genus *Elliotttyphloea* gen. nov. can be easily separated from all other Typhlopids in Madagascar by the extensive mid-ventral pale coloration. In terms of

other non-Malagascay Typhlopids, this species is most likely to be confused with the globally distributed species *braminus* (*Eryx braminus* Daudin, 1803).

It is separated from the species *braminus* by the absence of a superior nasal suture (vs. completely divided suture) and an inferior nasal suture contacting the second supralabial (rather than the preocular). Additionally, the nostrils are inferior, the eye invisible, the coloration black and a yellow mid-ventral band is present that increases in size caudally.

Edwardstyphlops gen. nov. is separated from all other Blindsnakes by the following suite of characters: No tail spine: eyes hidden, snout rounded, moderately projecting; nostrils lateral; rostral is hardly one third the width of the head; nasal is incompletely divided, the cleft proceeding from the second labial; praeocular present, a little narrower than the ocular, in contact with the second and third labials; upper head scales enlarged; four upper labials. Diameter of the body is 46 times in the total length; tail is slightly longer than the head and rounded at the end without a terminal spine. 24 rows of scales around the body (22-24-22), approximately 400-580 mid dorsal scales. Dorsally blackish brown and below, in some cases each scale with a somewhat lighter longitudinal streak giving an appearance of a striped pattern.

Woolftyphlops gen. nov. is separated from all other Blindsnakes by the following suite of characteristics: Prominent snout, depressed and rounded with inferior nostrils. Rostral is half the width of the head; nasal nearly completely divided, the cleft proceeding from the second labial; praeocular present, a little narrower than the nasal or the ocular, in contact with the second and third labials; eyes distinct; upper head scales enlarged; four upper labials. Diameter of the body is 42-55 times in total length; tail is as broad or a little longer, ending in a spine. Scale rows around the body range from 25-28, 24-28 or 24-26, and there are 488-577 mid-dorsal scales. Color is grey-brown or olive above and lighter ventrally.

The genus *Carrtyphloea* gen. nov. is separated from all other Blindsnakes by the following unique set of characters: The snout is rounded, strongly projecting; nostrils inferior. Rostral broad, upper portion is broadest anteriorly, about half the width of the head, extending to the level of the eyes; nasal incompletely divided, the cleft proceeding from the second labial; a praeocular of about the same size as the ocular in contact with the second and third labials; eyes distinguishable; upper head scales are a little larger than the scales on the body; four upper labials. Diameter of the body is 58-66 times in the total length; tail is twice as long as it is broad and ends in a spine. 20 rows of scales around the midbody. The colouration is brownish, each scale with a brown spot; these spots largest and darkest on the dorsal surface, where they form longitudinal lines.

These six genera of Blindsnakes have clearly been isolated from other species from Africa and Asia for a considerable period, are morphologically distinct and therefore warrant placement in their own tribe of genera and species.

Distribution: Confined to "continental" Madagascar and nearby islands.

Etymology: Named in recognition of Ron Hoser, for various contributions to herpetology in Australia.

Content: *Ronhoserus* gen. nov., *Carrtyphloea* gen. nov., *Eippertyphloea* gen. nov., *Elliotttyphloea* gen. nov., *Edwardstyplops* gen. nov., *Woolftyphlops* gen. nov.

GENUS RONHOSERUS GEN. NOV.

Type species: *Onychocephalus arenarius* Grandidier, 1872

Diagnosis: Separated from similar species, including all other Typhlopids by the following suite of characters: 20-24 mid-body rows, coloration may be bicolored with distinct separation of dorsal and ventral colors or unicolored, lateral head shape may be not depressed and domed or depressed and obtusely pointed, it has an ogival head shape in dorsal view and wedge shape in lateral view; dorsal rostral shape is either circular or parallel, lateral rostral shape may be angled or curved, position of eyes is either on the prefrontal or the frontal-prefrontal suture, there may be "X"-shaped cross on head, four upper labials, eye distinct, lateral tongue papillae may be present or absent, right systemic arch junction craniad of heart tip 3-6% total lung midpoint 28-35%, right lung midpoint 38-46% posterior tip of lung 47-62% and total kidney length 5-9%, the tail ends in a spine; diameter of the body is 52-58 times in the total length.

Distribution: Madagascar region.

Etymology: Named in recognition of the late Ron Hoser, formerly of Liverpool, NSW, Australia for various contributions to herpetology in Australia.

Content: *Ronhoserus arenarius* (Grandidier, 1872) (Type species), *R. albanalis* (Rendahl, 1918), *R. comorensis* (Boulenger, 1889), *R. decorsei* (Mocquard, 1901), *R. ocularis* (Parker, 1927).

GENUS EIPPERTYPHLOPEA GEN. NOV.

Type species: *Typhlops andasibensis* Wallach and Glaw, 2009

Diagnosis: This genus can be distinguished from all other Typhlopidae by the combination of 24-28 mid-body scale rows, 360-400 total mid-dorsal scales, a sometimes slightly trilobed snout in dorsal profile, a rounded snout in lateral profile, in some specimens a trans-ventral supralabial imbrication pattern, transversely enlarged frontal, postfrontal and interparietal scales, inferior nasal suture contacting second supralabial, and an incomplete superior nasal suture.

Distribution: Madagascar region.

Etymology: Named in recognition of Ty Eipper, of Marsden, Brisbane, Queensland, Australia, for various contributions to herpetology in Australia, including maintaining the research collection of husband Scott Eipper when he is away from the facility for long periods, when engaged in field trips all over Australia and when doing venomous snake-handling courses in which he teaches safe handling methods without the use of barbaric metal tongs that kill and injure snakes.

Content: *Eippertyphloea andasibensis* Wallach and Glaw, 2009 (Type species), *E. domerguei*.

GENUS ELLIOTTYPHLOPEA GEN. NOV.

Type species: *Typhlops microcephalus* Werner, 1909

Diagnosis: *Elliotttyphloea* gen. nov. is most easily separated from all other Typhlopids in Madagascar by the extensive mid-ventral pale coloration. In terms of other non-Madagascar Typhlopids, this species is most likely to be confused with the globally distributed species *braminus* (*Eryx braminus* Daudin, 1803).

It is separated from the species *braminus* by the absence of a superior nasal suture (vs. completely divided suture) and an inferior nasal suture contacting the second supralabial (rather than the preocular). Additionally, the nostrils are inferior, the eye invisible, the coloration black and a yellow mid-ventral band is present that increases in size caudally.

20-20-20 scale rows, 77-359 mid-dorsal scales, tail ends in a spine and has less than ten subcaudals.

Distribution: Madagascar.

Etymology: Named in recognition of Liz Elliott of Hoppers Crossing, Melbourne, Victoria, Australia for various contributions to herpetology in Australia, including maintaining the research collection of husband Adam Elliott when he is away from the facility for long periods, when engaged in field trips all over Australia and when doing venomous snake-handling courses in which he teaches safe handling methods without the use of barbaric metal tongs that kill and injure snakes.

Content: *Elliotttyphloea microcephalus* (Werner, 1909) (Type species), *E. reuteri* (Boettger, 1881).

GENUS EDWARDSTYPHLOPS GEN. NOV.

Type species: *Typhlops madagascariensis* Boettger, 1877

Diagnosis: *Edwardstyplops* gen. nov. is separated from all other Blindsnakes by the following suite of characters: No tail spine: eyes hidden, snout rounded, moderately projecting; nostrils lateral; rostral is hardly one third the width of the head; nasal is incompletely divided, the cleft proceeding from the second labial; preocular present, a little narrower than the ocular, in contact with the second and third labials; upper head scales enlarged; four upper labials. Diameter of the body is 46 times in the total length; tail is slightly longer than the head and rounded at the end without a terminal spine. 24 rows of scales around the body (22-24-22), approximately 400-580 mid dorsal scales. Dorsally blackish brown and below, in some cases each scale with a somewhat lighter longitudinal streak giving an appearance of a striped pattern.

Distribution: Madagascar.

Etymology: Named in recognition of Euan Edwards, formerly of Madagascar, now of the Gold Coast, Queensland, Australia for various contributions to herpetology in Australia, the USA and elsewhere.

Content: *Edwardstyplops madagascariensis* (Boettger, 1877) (Type species), *E. rajeryi* (Renoult and Raselimanana, 2009).

GENUS WOOLFTYPHLOPS GEN. NOV.

Type species: *Typhlops (Ophthalmidion) mucronatus* Boettger, 1880

Diagnosis: *Woolftyphlops* gen. nov. is separated from all

other Blindsnakes by the following suite of characteristics: Prominent snout, depressed and rounded with inferior nostrils. Rostral is half the width of the head; nasal nearly completely divided, the cleft proceeding from the second labial; praeocular present, a little narrower than the nasal or the ocular, in contact with the second and third labials; eyes distinct; upper head scales enlarged; four upper labials. Diameter of the body is 42-55 times in total length; tail is as broad or a little longer, ending in a spine. Scale rows around the body range from 25-28, 24-28 or 24-26, and there are 488-577 mid-dorsal scales. Color is grey-brown or olive above and lighter ventrally.

Distribution: Madagascar.

Etymology: Named in recognition of Paul Woolf of Walloon, Queensland, Australia for various contributions to herpetology in Australia.

Content: *Woolftyphlops mucronatus* (Boettger, 1880).

GENUS *CARRYPHLOPEA* GEN. NOV.

Type species: *Typhlops exocoeti* Boulenger, 1887

Diagnosis: The genus *Carryphlopea* gen. nov. is separated from all other Blindsnakes by the following unique set of characters: The snout is rounded, strongly projecting; nostrils inferior. Rostral broad, upper portion is broadest anteriorly, about half the width of the head, extending to the level of the eyes; nasal incompletely divided, the cleft proceeding from the second labial; a praeocular of about the same size as the ocular in contact with the second and third labials; eyes distinguishable; upper head scales are a little larger than the scales on the body; four upper labials. Diameter of the body is 58-66 times in the total length; tail is twice as long as it is broad and ends in a spine. 20 rows of scales around the midbody. The colouration is brownish, each scale with a brown spot; these spots largest and darkest on the dorsal surface, where they form longitudinal lines.

Distribution: Known only from a relatively small number of specimens collected on Christmas Island in the Indian Ocean.

Etymology: Named in honour of Julia Carr, formerly of Tahmoor, NSW, Australia and more recently the NSW central coast, for her many contributions to herpetology including in running the Macarthur Herpetological Society in it's early years with Bob Gleeson of Mount Annan in NSW and others.

Content: *Carryphlopea exocoeti* (Boulenger, 1887)

TRIBE LIBERTADICTIINI TRIBE NOV.

(Terminal Taxon: *Onychocephalus bituberculatus* Peters, 1863)

Diagnosis: An Australian-New Guinean clade of Blindsnakes having retrocloacal sacs and solid eversible awned hemipenes that retract into the tail in a helical pattern, excluding the genera *Acutotyphlops* Wallach, 1995 and *Martinwellstyphlops* gen. nov. which are defined as follows:

Acutotyphlops can be distinguished from all other Typhlopidae by any of the following characters: (1) V-shaped lower jaw; (2) short, narrow rostral; (3) an enlarged frontorostral shield; (4) occipital condyle formed solely from the basioccipital; and (5) acuminate contact

of four braincase bones (parietal and basisphenoid, frontal and prootic) forming an X-shaped pattern.

Martinwellstyphlops gen. nov. would normally key out as *Acutotyphlops* as diagnosed above, but is separated from this genus by the presence of (1) a single ocular and preocular shield (vs. fragmentation into 6-10 shields), (2) three infralabials (vs. 5-7 shields), (3) fourth supralabial as tall as long (vs. at least twice as long as tall), (4) uniformly light dorsum and venter with irregular dark dorsal spots (vs. dark dorsum and light venter separated by a sharp demarcation), and absence of (5) retrocloacal sacs, and (6) a solid, awned hemipenis with helical coils in tail when retracted.

Sivadictus, a genus in this tribe is separated from all other Blindsnakes by the following suite of characters: Purplish pink-brown to nearly black above, cream, yellow or pinkish below. Snout is rounded from above and in profile. Nasal cleft joining the second supralabial or the suture between the first and second labials, projecting forward and upwards to partially divide the nasal, visible from above. Rostral is large, oval or elliptical, much longer than broad. 22 mid body scale rows. Body diameter is 35-60 times in its length.

Libertadictus species are defined as follows: they are distinguished by the following combination of characters: Snout trilobed dorsally, bilobed or single, angular in profile; nasal not divided by nasal cleft; nasal cleft not visible from above; rostral shield-shaped in an oval shape usually when viewed from a dorsal aspect; mid-body scales in 18-22 rows; body diameter 30-90 times in its length, eyes visible, usually as black spots.

Comments: Libertadictiini is a tribe of Blindsnakes effectively restricted to the Australian region and in geological terms is of relatively recent origin. Wells and Wellington, 1983 provided a diagnosis for their genus *Libertadictus* in accordance with the then current Zoological Code essentially for the type species and no other.

As a result this genus did not include all species taxa as since defined by Wallach (2006) as genus *Austrotyphlops*, which covers the bulk of Australian species and is the basis of my definition of *Libertadictus* herein, being a name with date priority over *Austrotyphlops* for this species group.

Also relevant is that in 1985 Wells and Wellington erected another genus *Sivadictus* using the species *Anillios nigrescens* Gray, 1845 as their type species, intending to use this name to cover the bulk of Australian species. Regardless of their intent, the name *Sivadictus* retains date priority and is therefore used.

Furthermore, Wallach (2006) used the species *Anillios nigrescens* Gray, 1845 as their type species for their genus *Austrotyphlops* meaning that in any situation, this name cannot be used as a genus name for any Blind Snakes as it is a junior synonym for *Sivadictus* Wells and Wellington, 1985.

Claims have been made that the Wells and Wellington descriptions failed to comply with the relevant Zoological Code in force at the time. These claims are fraudulent, scandalous and false and easily shown as such by simple reference to the original publications.

The so-called herpetologists who have made these claims in terms of the Wells and Wellington Blindsnake descriptions should be exposed and censured for their gross dishonesty.

For the benefit of future workers on the Typhlopids, I publish below, verbatim the Wells and Wellington descriptions of *Libertadictus* from 1983 and *Sivadictus* from 1985, for the sole purpose of confirming that these were published according to the Zoological Code of the time and therefore the names are "available" under the Zoological Codes.

The descriptions are also published here to show why I refer to the type species groups as is, noting that I have redefined each genus phylogenetically, based on the results of Vidal et. al. (2010), thereby rearranging taxa within each genus as herein diagnosed.

In summary *Libertadictus* is the genus that accommodates the majority of Australian species. *Sivadictus* becomes the genus that accommodates the so-called *polygrammicus* group from Indo-Australia. There is strong argument for further splitting these species groups, but this is deferred pending potential publication of the same by Wells in the near future.

From Wells and Wellington 1983 (pp. 104-105).

TYPHLOPIDAE

Libertadictus gen. nov.

Type species: *Onychocephalus bituberculatus* Peters, 1863 (a)

Content: *bituberculatus*

Diagnosis: A monotypic genus of subterranean snakes of central and southern Australia, closely allied to *Ramphotyphlops*. Distinguished by the following combination of characters: Snout trilobed dorsally, angular in profile; nasal not divided by nasal cleft; nasal cleft not visible from above; rostral shield-shaped from dorsal aspect; mid-body scales in 20 rows; body diameter 40-90 times in its length; maximum length about 170 mm (SVL).

Etymology: *Libertadictus* = devoted to freedom.

Libertadictus bituberculatus (Peters, 1863) (a).

END OF QUOTE

From Wells and Wellington 1985 (p. 41).

SIVADICTUS GEN. NOV.

Type species: *Anilius nigrescens* Gray, 1845

Diagnosis: A genus of elongate burrowing Typhlopids, closely allied to *Ramphotyphlops* and *Libertadictus*. Distributed throughout continental Australia and readily distinguished by the following characteristics: snout smoothly round dorsally (vs trilobed in *Libertadictus*), lacking obvious cephalic glands (but present in *Ramphotyphlops*); snout usually rounded in profile; rostral broadly oval from above (but species from the NW of Western Australia have a rostral much longer than broad). All species appear to have a preference for habitats in areas of higher rainfall than *Libertadictus*, a genus of the arid regions.

Etymology: The name *Sivadictus* means devoted to destruction and restoration.

END OF QUOTE

Beyond this Wells then listed about 21 species of Australian Blindsnakes as being within this genus.

Distribution: *Libertadictus* is found in Australia, New Guinea, Indonesia and adjacent islands.

Content: *Libertadictus* Wells and Wellington, 1983, *Sivadictus* Wells and Wellington, 1985.

GENUS LIBERTADICTUS WELLS AND WELLINGTON, 1983

Type species: *Onychocephalus bituberculatus* Peters, 1863

Diagnosis: An Australian-New Guinean genus of Blindsnakes having retrocloacal sacs and solid eversible awned hemipenes that retract into the tail in a helical pattern, excluding the genera *Sivadictus* Wells and Wellington 1985, *Acutotyphlops* Wallach, 1995 and *Martinwellstyphlops* gen. nov. (the latter two being outside this tribe) which are defined as follows:

Sivadictus is separated from all other Blindsnakes by the following suite of characters: Purplish pink-brown to nearly black above, cream, yellow or pinkish below. Snout is rounded from above and in profile. Nasal cleft joining the second supralabial or the suture between the first and second labials, projecting forward and upwards to partially divide the nasal, visible from above. Rostral is large, oval or elliptical, much longer than broad. 22 mid body scale rows. Body diameter is 35-60 times in its length.

Acutotyphlops can be distinguished from all other Typhlopidae by any of the following characters: (1) V-shaped lower jaw; (2) short, narrow rostral; (3) an enlarged frontorostral shield; (4) occipital condyle formed solely from the basioccipital; and (5) acuminate contact of four braincase bones (parietal and basisphenoid, frontal and prootic) forming an X-shaped pattern.

Martinwellstyphlops gen. nov. would normally key out as *Acutotyphlops* as diagnosed above, but is separated from this genus by the presence of (1) a single ocular and preocular shield (vs. fragmentation into 6-10 shields), (2) three infralabials (vs. 5-7 shields), (3) fourth supralabial as tall as long (vs. at least twice as long as tall), (4) uniformly light dorsum and venter with irregular dark dorsal spots (vs. dark dorsum and light venter separated by a sharp demarcation), and absence of (5) retrocloacal sacs, and (6) a solid, awned hemipenis with helical coils in tail when retracted.

Libertadictus species are further defined as follows: distinguished by the following combination of characters: Snout trilobed dorsally, bilobed or single, angular in profile; nasal not divided by nasal cleft; nasal cleft not visible from above; rostral shield-shaped in an oval shape usually when viewed from a dorsal aspect; mid-body scales in 18-22 rows; body diameter 30-90 times in its length, eyes visible, usually as black spots.

Comment: Richard Wells is expected to be publishing a major paper in terms of reclassifying Australian Blindsnakes in the near future and this may result in changes in terms of the diagnoses of Australian groups herein, most likely along lines similar to that anticipated earlier in this paper.

Distribution: The Australian region.

Etymology: See above.

Content: *L. bituberculatus* (Peters, 1863) (Type species), *L. ammodytes* (Montague, 1914), *L. aspina* (Couper, Covacevich and Wilson, 1998), *L. australis* (Gray, 1845), *L. batillus* (Waite, 1894), *L. broomi* (Boulenger, 1898), *L. centralis* (Storr, 1984), *L. chamodracaena* (Ingram and Covacevich, 1993), *L. diversus* (Waite, 1894), *L. endoterus* (Waite, 1918), *L. ganei* (Aplin, 1998), *L. grypus* (Waite, 1918), *L. guentheri* (Peters, 1865), *L. hamatus* (Storr, 1981), *L. howi* (Storr, 1983), *L. kimberleyensis* (Storr, 1981), *L. leptosomus* (Robb, 1972), *L. ligatus* (Peters, 1879), *L. longissimus* (Aplin, 1998), *L. margaretae* (Storr, 1981), *L. micrommus* (Storr, 1981), *L. minimus* (Kinghorn, 1929), *L. nema* (Shea and Horner, 1997), *L. nigroterminatus* (Parker, 1931), *L. pilbarensis* (Aplin and Donnellan, 1993), *L. pinguis* (Waite, 1897), *L. proximus* (Waite, 1893), *L. robertsi* (Couper, Covacevich and Wilson, 1998), *L. sylvia* (Ingram and Covacevich, 1993), *L. splendidus* (Aplin, 1998), *L. towelli* (Loveridge, 1945), *L. troglodytes* (Storr, 1981), *L. unguirostris* (Peters, 1867), *L. waitii* (Boulenger, 1895), *L. wiedii* (Peters, 1867), *L. yampiensis* (Storr, 1981), *L. yirikalae* (Kinghorn, 1942).

GENUS *SIVADICTUS* WELLS AND WELLINGTON, 1985

Type species: *Anilius nigrescens* Gray, 1845

Diagnosis: *Sivadictus* is separated from all other Blindsnakes by the following suite of characters: Purplish pink-brown to nearly black above, cream, yellow or pinkish below. Snout is rounded from above and in profile. Nasal cleft is long, joining the second supralabial or the suture between the first and second labials, projecting forward and upwards to partially divide the nasal, visible from above. Rostral is large, oval or elliptical, much longer than broad. 22 mid body scale rows. Body diameter is 35-60 times in its length; tail terminates in a spine.

Distribution: Australia, New Guinea and Indonesia.

Content: *Sivadictus nigrescens* (Gray, 1845) (Type species), *S. brongersmai* (Hahn, 1980), *S. elberti* (Roux, 1911), *S. erycinus* (Werner, 1901), *S. florensis* (Boulenger, 1887), *S. polygrammicus* (Schlegel, 1839), *S. undecimlineatus* (Hahn, 1980), *S. torresianus* (Boulenger, 1889).

TRIBE MARTINWELLSTYPHLOPINI TRIBE NOV.

(Terminal taxon: *Acutotyphlops banaorum* Wallach, Brown, Diesmos and Gee, 2007)

Diagnosis: Specimens within this tribe can be distinguished from all other Typhlopidae by any of the following characters: (1) V-shaped lower jaw; (2) short, narrow rostral; (3) an enlarged frontorostral shield; (4) occipital condyle formed solely from the basioccipital; and (5) acuminate contact of four braincase bones (parietal and basisphenoid, frontal and prootic) forming an X-shaped pattern.

The genus *Martinwellstyplops* gen. nov. can be separated from *Acutotyphlops* by the presence of (1) a single ocular and preocular shield (vs. fragmentation into 6-10 shields), (2) three infralabials (vs. 5-7 shields), (3) fourth supralabial as tall as long (vs. at least twice as long as tall), (4) uniformly light dorsum and venter with

irregular dark dorsal spots (vs. dark dorsum and light venter separated by a sharp demarcation), and absence of (5) retrocloacal sacs, and (6) a solid, awned hemipenis with helical coils in tail when retracted.

There are only two genera in this tribe, namely *Martinwellstyplops* gen. nov. and *Acutotyphlops*. Both have a sharp terminal spine.

Distribution: *Martinwellstyplops* gen. nov. is known only from Balbalasang, North Philippines. *Acutotyphlops* is presently known only from the region north-east of Island New Guinea, including the mainland.

Etymology: Named in honour of Martin Wells of Oxford Falls, NSW, Australia for numerous services to herpetology in the 1980's, including much fieldwork on Death Adders at West Head and Cottage Point in NSW.

Content: *Acutotyphlops* Wallach, 1995, *Martinwellstyplops* gen. nov.

GENUS *MARTINWELLSTYPHLOPS* GEN. NOV.

Type species: *Acutotyphlops banaorum* Wallach, Brown, Diesmos and Gee, 2007

Diagnosis: Specimens within the genus *Acutotyphlops* can be distinguished from all other Typhlopidae by any of the following characters: (1) V-shaped lower jaw; (2) short, narrow rostral; (3) an enlarged frontorostral shield; (4) occipital condyle formed solely from the basioccipital; and (5) acuminate contact of four braincase bones (parietal and basisphenoid, frontal and prootic) forming an X-shaped pattern.

The genus *Martinwellstyplops* gen. nov. can in turn be separated from *Acutotyphlops* by the presence of (1) a single ocular and preocular shield (vs. fragmentation into 6-10 shields), (2) three infralabials (vs. 5-7 shields), (3) fourth supralabial as tall as long (vs. at least twice as long as tall), (4) uniformly light dorsum and venter with irregular dark dorsal spots (vs. dark dorsum and light venter separated by a sharp demarcation), and absence of (5) retrocloacal sacs, and (6) a solid, awned hemipenis with helical coils in tail when retracted.

This genus is monotypic for the type species.

Distribution: *Martinwellstyplops* gen. nov. is known only from Balbalasang, North Philippines. *Acutotyphlops* is presently known only from the region north-east of Island New Guinea, including the mainland.

Etymology: Named in honour of Martin Wells of Oxford Falls, NSW, Australia for numerous services to herpetology in the 1980's, including much fieldwork on Death Adders at West Head and Cottage Point in NSW.

Content: *M. banaorum* (Wallach, Brown, Diesmos and Gee, 2007) (Type species).

GENUS *ACUTOTYPHLOPS* WALLACH, 1995

Type species: *Acutotyphlops kunuaensis* Wallach, 1995

Diagnosis: Specimens within the genus *Acutotyphlops* can be distinguished from all other Typhlopidae by any of the following characters: (1) V-shaped lower jaw; (2) short, narrow rostral; (3) an enlarged frontorostral shield; (4) occipital condyle formed solely from the basioccipital; and (5) acuminate contact of four braincase bones (parietal and basisphenoid, frontal and prootic) forming an X-shaped pattern. Notwithstanding the preceding, the genus *Martinwellstyplops* gen. nov. can in turn be

separated from *Acutotyphlops* by the presence of (1) a single ocular and preocular shield (vs. fragmentation into 6-10 shields), (2) three infralabials (vs. 5-7 shields), (3) fourth supralabial as tall as long (vs. at least twice as long as tall), (4) uniformly light dorsum and venter with irregular dark dorsal spots (vs. dark dorsum and light venter separated by a sharp demarcation), and absence of (5) retrocloacal sacs, and (6) a solid, awned hemipenis with helical coils in tail when retracted.

At least one species within *Acutotyphlops* (namely *subocularis*) is known to feed on earthworms.

Distribution: *Acutotyphlops* is presently known only from the region north-east of Island New Guinea, including the mainland. *Martinwellstyphlops* gen. nov. is known only from Balbalasang, North Philippines.

Content: *Acutotyphlops kunuaensis* Wallach, 1995 (Type species), *Acutotyphlops infralabialis* (Waite, 1918), *Acutotyphlops solomonis* (Parker, 1939), *Acutotyphlops subocularis* (Waite, 1897).

TRIBE RAMPHOTYPHLOPINI TRIBE NOV.

(Terminal taxon: *Typhlops multilineatus* Schlegel, 1839)

Diagnosis: The genus *Ramphotyphlops* and this tribe of Blind Snakes is defined as having a helically coiled hemipenis bearing a long, noninversible portion, and well-developed retrocloacal sacs. The genera within the tribes Libertadictini and Martinwellstryphlopini are excluded from this tribe by the diagnoses within these tribes as published herein.

Acutotyphlops Wallach, 1995 and *Martinwellstyphlops* gen. nov. from the tribe Martinwellstyphlopini are defined as follows:

Acutotyphlops can be distinguished from all other Typhlopidae by any of the following characters: (1) V-shaped lower jaw; (2) short, narrow rostral; (3) an enlarged frontorostral shield; (4) occipital condyle formed solely from the basioccipital; and (5) acuminate contact of four braincase bones (parietal and basisphenoid, frontal and prootic) forming an X-shaped pattern.

Martinwellstyphlops gen. nov. would normally key out as *Acutotyphlops* as diagnosed above, but is separated from this genus by the presence of (1) a single ocular and preocular shield (vs. fragmentation into 6-10 shields), (2) three infralabials (vs. 5-7 shields), (3) fourth supralabial as tall as long (vs. at least twice as long as tall), (4) uniformly light dorsum and venter with irregular dark dorsal spots (vs. dark dorsum and light venter separated by a sharp demarcation), and absence of (5) retrocloacal sacs, and (6) a solid, awned hemipenis with helical coils in tail when retracted.

The genera from the tribe Libertadictini are defined as follows:

Sivadictus, a genus in this tribe is separated from all other Blindsnakes by the following suite of characters: Purplish pink-brown to nearly black above, cream, yellow or pinkish below. Snout is rounded from above and in profile. Nasal cleft joining the second supralabial or the suture between the first and second labials, projecting forward and upwards to partially divide the nasal, visible from above. Rostral is large, oval or elliptical, much

longer than broad. 22 mid body scale rows. Body diameter is 35-60 times in its length.

Libertadictus species are generally further defined as follows: distinguished by the following combination of characters: Snout trilobed dorsally, bilobed or single, angular in profile; nasal not divided by nasal cleft; nasal cleft not visible from above; rostral shield-shaped in an oval shape usually when viewed from a dorsal aspect; mid-body scales in 18-22 rows; body diameter 30-90 times in its length, eyes visible, usually as black spots.

Distribution: Herein restricted to the South-east Asian and Oceania regions.

Content: *Ramphotyphlops* Fitzinger, 1843, *Funkityphlops* gen. nov., *Johnwilsontyphlops* gen. nov., *Oxytyphlops* gen. nov.

GENUS RAMPHOTYPHLOPS FITZINGER, 1843

Type species: *Typhlops multilineatus* Schlegel, 1839

Diagnosis: The genus *Ramphotyphlops* is defined herein according to the tribe diagnosis above and by the exclusion of the other genera within this tribe as defined within this paper.

Comment: There is little doubt that the genus as defined to date has been composite and paraphyletic at the genus level.

Notwithstanding the species removed in this paper and placed in new genera, it is possible that one or more relevant genera may need to be broken up further in the future.

Content: *R. multilineatus* (Schlegel, 1839) (Type species), *R. angusticeps* (Peters, 1877), *R. olivaceus* (Gray, 1845), *R. leucoproctus* (Boulenger, 1889).

GENUS OXYTYPHLOPS GEN. NOV.

Type species: *Typhlops marxi* Wallach, 1993

Diagnosis: *Oxytyphlops* gen. nov. is separated from all other genera within this tribe and other typhlopids by the by the following unique suite of characters: a relatively pointed snout having a horizontal transverse edge; the presence of a V-shaped transversely enlarged interparietal and multi cameral tracheal lung with type B foramina; a T-0 supralabial imbrication pattern, meaning that no supralabials overlap the scales above them; 30 mid body rows, approximately 525 middorsals, 36 subcaudals, in addition to a keeled rostral and relatively long tail which is 5-6% of the total length.

The preceding was paraphrased from the original species diagnosis of the sole species in this genus by Wallach (1993).

In terms of the female holotype Wallach noted it had a snout-vent length of 169 mm and total length of 179.5 mm; midbody diameter of 4 mm, body width contained in total length 45 times; tail length 10.5 mm, representing 5.9% total length; midtail diameter 3 mm, tail 3.5 times as long as wide; longitudinal scale row formula 28-30-26, counted 15 scales posterior to mental, at midbody, and 10 scales anterior to anal shields. There are 525 transverse scale rows (total middorsal count between rostral and terminal spine) and 36 subcaudal scales. Five anal scales present. In lateral profile, terminus of tail exhibits downward curvature and sharp, posteroventrally directed terminal spine. The four supralabials increase in

size posteriorly. Colour is light brown on top and creamish underneath

Distribution: Philippines.

Etymology: Named in recognition of over 8 years service to the Hoser/Snakebusters reptile education enterprise by the pet Great Dane Dog named *Oxyuranus* (Oxy for short), guarding the facility from a number of thieves in the reptile business who used many means to try to steal the world first venomoid (surgically devenomized) Taipans, Death Adders and the like to use in their own inferior reptile displays.

PS *Oxyuranus* is the genus name for a large Australian elapid snake.

Content: *Oxytyphlops marxi* (Wallach, 1994) (Type species).

GENUS JOHNWILSONTYPHLOPS GEN. NOV.

Type species: *Typhlops acuticaudus* Peters, 1877

Diagnosis: *Johnwilsontyphlops* is separated from all others in the genus *Ramphotyphlops* (in which it was formerly placed) by the following suite of characters: Snout is rounded and prominent and lacks a keratinized keel; it may be pyriform (*J. adocetus*) or ovate (*J. hatmaliyeb*); nostrils are lateral. Rostral is about one third the width of the head, extending to the level of the eyes; nostrils between two nasals, the anterior in contact with the first and second labials; praecocular present, a little narrower than the ocular, in contact with the second and third labials; eyes distinct; upper head shields except for the parietals are scarcely enlarged; four upper labials. Diameter of the body is about 52 times in the total length; tail is one and a half times as long as broad and ends in a spine, 22 or 24 mid-body rows; brown above and yellowish ventrally.

Distribution: Indonesia, Micronesia and other Pacific islands.

Etymology: Named in honour of John Wilson, formerly of Warrawee, NSW, Australia for numerous services to herpetology in the 1980's, including much fieldwork on Death Adders and Diamond Pythons at West Head and Cottage Point in NSW.

Content: *Johnwilsontyphlops acuticaudus* (Peters, 1877) (type species), *J. becki* (Tanner, 1948), *J. adocetus* (Wynn, Reynolds, Buden, Falanruw and Lynch, 2012), *J. cummingii* (Gray, 1845), *J. depressus* (Peters, 1880), *J. flaviventer* (Peters, 1864), *J. hatmaliyeb* (Wynn, Reynolds, Buden, Falanruw and Lynch, 2012), *J. mansuetus* (Barbour, 1921), *J. similis* (Brongersma, 1934), *J. supranasalis* (Brongersma, 1934), *J. willeyi* (Boulenger, 1900).

GENUS FUNKITYPHLOPS GEN. NOV.

Type species: *Typhlops lineatus* Schlegel, 1839

Diagnosis: *Funkityphlops* gen. nov. is separated from all other Typhlopidae snakes by the following suite of characters: Scale formula 22-22-22; inferior nasal suture contacting the first supralabial; narrow stripes along the upper body; rostral very broad, about 70% of the head width; no preocular; eyes are invisible.

Other features diagnostic of this genus are that the snout is rounded and strongly projecting, flat inferiorly; nostrils inferior. Rostral is very large; nasal semidivided, the cleft

proceeding from the first labial; a single large shield (the ocular) on each side behind the nasal; praefrontal, supraoculars and parietals large and transverse; four upper labials. Diameter of the body is 40-60 times in the length; tail is about as long as broad and ends in a spine. 22 rows of scales around the body (22-22-22). Blackish above, each scale with a yellowish spot, or yellowish or pale brownish with dark brown longitudinal lines running between the series of scales; head and lower parts are yellowish white.

Distribution: Thailand, West Malaysia, Singapore, Indonesia (Islands of Nias, Sumatra, Java and Borneo).

Etymology: Named in honour of Dr. Richard Funk, veterinary surgeon and herpetologist, presently (as of April 2012) at Mesa, Arizona.

Funk has an extensive list of formal qualifications in herpetology and the expertise with reptiles that comes from being in his late 60's and spending a lifetime working with reptiles.

His love of reptiles is an inspiration to all.

In early 2011, I first spoke with Dr Funk by phone. I had contacted him in relation to his expertise in venomoid surgery in relation to pending legal proceedings in Australia, relating to false claims by business rivals that my own venomoid snakes had regenerated venom and were a public hazard. I had been referred to Dr Funk from another veterinary surgeon, Doug Mader.

While I had met Dr. Funk in 1993, I had no recall of this in 2011. Like myself, Funk had been subjected to false claims that snakes he had devenomized surgically had regenerated venom.

Of note is that his expertise in venomoid surgery (over 200 successful operations) and a chapter in Doug Mader's "*Reptile Medicine and Surgery*" (Mader 2006) was disregarded by a corrupt Victorian VCAT judge Pamela Jenkins in March 2012, in favour of a false and anonymous blog post sponsored by "tongs.com" claiming venomoids regenerate venom.

The claim, not supported by any evidence whatsoever was tendered by Department of Sustainability and Environment Victoria (DSE) lawyer, Sam Bird in a tribunal hearing and the judge, biased from the outset, ruled the DSE's evidence compelling!

The ultimate "ruling" in the case by Pamela Jenkins "found" as court certified "fact" that all this author's venomoid snakes (most having been created in the period 2004-5) were as of 2012 highly dangerous as all had regenerated their venom.

This false and bizarre claim was made even though she was aware that all had been tested as safe (by biting this author and being filmed doing so) and confirming they lacked venom just a week prior to the 2012 hearing.

More dangerously, this lie of venomoid snake venom regeneration has been widely reposted on the internet to claim that dozens of bites sustained by myself and others from the venomoids, not resulting in envenomation of any sort, were "lucky" and the result of so-called "dry bites".

With this "judgement" likely to be widely posted (as has happened already in terms of a similar earlier (2008) judgement) and believed by other snake handlers, it is

likely persons bitten by highly venomous snakes will take a risk and a gamble on the bite being dry, with the ultimate result of an unnecessary death, or death avoided had first aid and treatment been sought immediately.

In 2011 snake handler Aleta Stacey died as a result of heeding similar (false) advice about the alleged high frequency of "dry bites". It was reported in the media that she'd received this advice from another reptile handler, Al Coritz, a man who has campaigned heavily against this author's venomoids and made many false claims about venomoids and their alleged venom regeneration.

In summary, while corrupt and dishonest people may attack Funk and his expertise with reptiles, including by making false claims that venomoids regenerate venom, it is appropriate that his decades long contributions to herpetology and similar contributions to the medicine and welfare of countless captive reptiles should be recognised.

Content: *Funkityphlops lineatus* (Schlegel, 1839) (Type species).

TRIBE MAXHOSERINI TRIBE NOV.

(Terminal taxon: *Eryx braminus* Daudin, 1803)

(Known in most contemporary texts as *Ramphotyphlops braminus* or *Typlops braminus*)

Diagnosis: This tribe is best defined by defining each of the component genera, namely *Maxhoserus* gen. nov., *Piersontyphlops* gen. nov. and *Rentontyphlops* gen. nov. in order to separate them from all other blindsnakes.

Maxhoserus gen. nov. is separated from all other Blind Snakes by the following suite of characters: Rostral narrow, the upper portion one third the width of the head, not extending quite to the level of the eyes; nostril between two nasals, the anterior (lower) of which extends to the upper surface of the head and is in contact inferiorly with the praecocular; praefrontal nearly as large as the ocular, in contact with the second and third labials; eyes distinct; upper head scales are a little larger than the scales on the body; four upper labials; diameter of body is 35-55 times in the total length; tail is as long as or a little longer than broad, ending in a spine. 20 rows of scales around the body. Brown to blackish above, lighter inferiorly; the snout, anal region and the tail is usually whitish.

Piersontyphlops gen. nov. are separated from all other Blindsnakes by the following suite of characters: Body colour is a pale brown, but with the head to nape, cloacal area and spine being white; snout is rounded, moderately projecting; nostrils lateral; rostral is broad, about 47% of head width, extending to between the eyes; nasal is either completely divided or incompletely divided and if incompletely divided the cleft extends from the second labial to a little beyond the nostril; superior nasal suture touching rostral; praecocular is as broad as the nasal or the ocular; eyes are just distinguishable; praefrontal, frontal and interparietal are moderately large, equal, slightly larger than the supraocular, four upper labials, third and fourth in contact with the ocular, second and third with the praecocular. Diameter of the body is 64 times in the total length. 18 scale rows around the body; tail short, (TL/SVL 0.0189).

The genus *Rentontyphlops* gen. nov. is separated from all other Blindsnakes by the following suite of characters: The snout is rounded and moderately projecting, with nostrils lateral. The rostral is more than half the width of the head, reaching far back on the top of the head, nasal incompletely divided, the cleft extending from the second labial to a little beyond the nostril; eyes not distinguishable; praefrontal moderate; frontal and interparietal narrow; four upper labials, the third and fourth in contact with the ocular. Diameter of the body is 45-52 times in the total length; tail is one and a half times as long as it is broad, without or with a very feeble and obtuse spine. There are 20 rows of scales around the mid body and 550-600 transverse rows of scales. The colouration is a uniform isabelline yellow, being paler ventrally.

The genus is monotypic for the type species *Rentontyphlops thurstoni* (Boettger, 1890).

Distribution: The taxon *M. braminus* is believed to come from the region of India. However due to the fact that it can reproduce pathenogenetically (as in all snakes are reproductive females) and the fact that they are occasionally transported with plants by people, this species now has a global distribution.

Content: *Maxhoserus* gen. nov., *Piersontyphlops* gen. nov.

GENUS MAXHOSERUS GEN. NOV.

Type species: *Eryx braminus* Daudin, 1803

(Known in most contemporary texts as *Ramphotyphlops braminus* or *Typlops braminus*)

Diagnosis: *Maxhoserus* gen. nov. is separated from all other Blind Snakes by the following suite of characters: Rostral narrow, the upper portion one third the width of the head, not extending quite to the level of the eyes; nostril between two nasals, the anterior (lower) of which extends to the upper surface of the head and is in contact inferiorly with the praecocular; praefrontal nearly as large as the ocular, in contact with the second and third labials; eyes distinct; upper head scales are a little larger than the scales on the body; four upper labials; diameter of body is 35-55 times in the total length; tail is as long as or a little longer than broad, ending in a spine. 20 rows of scales around the body. Brown to blackish above, lighter inferiorly; the snout, anal region and the tail is usually whitish.

Distribution: Boulenger 1893, reported the species *braminus* as being native to South Asia, the Islands of the Indian Ocean and Africa south of the Equator. However more recent records give the species a global range. *Maxhoserus braminus* is the only species of snake known to be pathenogenetic. The other species in this genus believed to be most closely related to *Maxhoserus braminus* is *M. pammece* Günther, 1864 and it is native to India, giving a good indication of the geographical origins of the genus.

Etymology: Named in honour of my cousin Max Hoser of Liverpool and Campbelltown, NSW, Australia for various contributions to herpetology in the 1970's and 1980's.

Content: *Maxhoserus braminus* (Daudin, 1803), *M. conradi* (Peters, 1874), *M. jerdoni* (Boulenger, 1890), *M.*

horatensis (Taylor, 1962), *M. lankaensis* (Taylor, 1947), *M. leucomelas* (Boulenger, 1890), *M. malcolmi* (Taylor, 1947), *M. pammeces* (Günther, 1864), *M. tenebrarum* (Taylor, 1947), *M. veddae* (Taylor, 1947) and *M. violaceus* (Taylor, 1947).

GENUS *PIERSONTYPHLOPS* GEN. NOV.

Type species: *Typhlops albiceps* Boulenger, 1898

Diagnosis: *Piersontyphlops* are separated from all other Blindsnakes by the following suite of characters: Body colour is a pale brown, but with the head to nape, cloacal area and spine are white; snout is rounded, moderately projecting; nostrils lateral; rostral is broad, about 47% of head width, extending to between the eyes; nasal is either completely divided or incompletely divided and if incompletely divided the cleft extends from the second labial to a little beyond the nostril; superior nasal suture touching rostral; praeocular is as broad as the nasal or the ocular; eyes are just distinguishable; praefrontal, frontal and interparietal are moderately large, equal, slightly larger than the supraocular, four upper labials, third and fourth in contact with the ocular, second and third with the praeocular. Diameter of the body is 64 times in the total length. 18 scale rows around the body; tail short, (TL/SVL 0.0189).

Distribution: Reported from Myanmar (= Burma), South Thailand, West Malaysia, and Hong Kong (China).

Etymology: Americans historically have cherished the freedom of the individual.

Included here is the freedom of individuals to keep and study snakes and other wildlife. In recent years this right has come under threat from a raft of ridiculous bureaucratic impediments. In Australia in the early 1970's these rights were removed from most Australians. It was only as a result of the publication of two different books, *Smuggled* and *Smuggled-2* (Hoser 1993 and 1996) that led to these rights being restored to most Australians.

The success in Australia in terms of these books and their legislative outcomes reverberated around the world and in the case of the United States, meant that a major push to outlaw private ownership of reptiles in 1993 was also stopped in its tracks.

Charles Pierson as publisher of the first book took an incredibly courageous step in publishing it.

For North Americans reading this, as well as people everywhere else, it should be noted that the Australian government (at all levels) has considerably more powers than their North American counterparts and persons publishing material critical of government run the risk of immense fines, jail or similar.

I have suffered both!

The book *Smuggled: The Underground Trade in Australia's Wildlife* (Hoser 1993) was (as totally expected), illegally banned by the NSW National Parks and Wildlife Service, NPWS, NSW in May 1993 and as a result of a supreme effort by Pierson and an extremely brave and courageous journalist Fia Cumming, the ban was lifted.

(Cumming subsequently lost her job at the Murdoch controlled News Corporation as a result of this, but the

book became a best-seller).

Fighting the ban ultimately cost Pierson his home in the expensive Sydney suburb of Mosman and he lost his business and all his assets.

However this huge life-altering sacrifice against the tyranny of a corrupt and oversized bureaucracy should be permanently recognized. This is especially so in the context of reptiles, those who choose to study them and their conservation, including those many people who have the right to keep live reptiles as pets, solely as a consequence of Pierson's selfless actions.

Pierson also put wildlife conservation on the global agenda, with the publication of the seminal works *Endangered Animals of Australia*, (Hoser 1991) and *Australian Reptiles and Frogs* (Hoser 1989), the latter used extensively by the late Steve Irwin and other television "personalities", including Bruce George, Mark O'Shea, Chris Humfrey and others as a reference source to bring Australian animals to TV viewers globally.

Unfortunately as this paper goes to press in 2012 there are new assaults on the rights of reptile keepers and herpetologists both in the USA and Australia with new restrictions either passed or about to be passed in both jurisdictions.

Content: *Piersontyphlops albiceps* (Boulenger, 1898) (Type species).

GENUS *RENTONTYPHLOPS* GEN. NOV.

Type species: *Typhlops thurstoni* Boettger, 1890.

Diagnosis: The genus *Rentontyphlops* gen. nov. is separated from all other Blindsnakes by the following suite of characters: The snout is rounded and moderately projecting, with nostrils lateral. The rostral is more than half the width of the head, reaching far back on the top of the head, nasal incompletely divided, the cleft extending from the second labial to a little beyond the nostril; eyes not distinguishable; praefrontal moderate; frontal and interparietal narrow; four upper labials, the third and fourth in contact with the ocular. Diameter of the body is 45-52 times in the total length; tail is one and a half times as long as it is broad, without or with a very feeble and obtuse spine. There are 20 rows of scales around the mid body and 550-600 transverse rows of scales. The colouration is a uniform isabelline yellow, being paler ventrally.

The genus is monotypic for the type species *Rentontyphlops thurstoni* (Boettger, 1890).

Distribution: Known only from a small number of specimens in the general region of Nilgerry Hills in Southern India.

Etymology: Named in honour of Ian Renton of Paradise, Adelaide, South Australia in recognition of his valuable reptile conservation work through his reptile advisory service, "Snake-away", and various other herpetological work spanning some decades.

Content: *Rentontyphlops thurstoni* (Boettger, 1890) (Type species).

TRIBE ARGYOPHIINI TRIBE NOV.

(Terminal taxon: *Typhlops diardii* Schlegel, 1839)

Diagnosis: This tribe is monotypic for the genus *Argyphis*. The diagnosis for the tribe is therefore the

same as for the genus. It is separated from all other Blindsnakes by the following characteristics: Snout rounded and strongly projecting. Nostrils lateral. Rostral is narrow, its upper portion about one third the width of the head, extending to between the eyes; nasal nearly completely divided, the cleft proceeding from the second labial; a praeocular nearly as large as the ocular in contact with the second and third labials; eyes distinct; praefrontal and frontal usually scarcely larger the scales on the body; supraoculars and parietals broader; four upper labials. Diameter of the body is 29-34 times in the total length; tail is as long as broad, or broader than long, terminating in a spine. These are the only Typhlopids outside of Africa known to retain a left lung.

Distribution: India, across south-east Asia east to island New Guinea. Most specimens are reported in the literature as the species *diardii*, but based on obvious and published morphological differences, several species are involved and some have been formally described, including those listed herein.

Content: *Argyophis* Gray, 1845.

GENUS ARGYOPHIS GRAY, 1845

Type species: *Typhlops diardii* Schlegel, 1839

Diagnosis: *Argyophis* is separated from all other Blindsnakes by the following characteristics: Snout rounded and strongly projecting. Nostrils lateral. Rostral is narrow, its upper portion about one third the width of the head, extending to between the eyes; nasal nearly completely divided, the cleft proceeding from the second labial; a praeocular nearly as large as the ocular in contact with the second and third labials; eyes distinct; praefrontal and frontal usually scarcely larger the scales on the body; supraoculars and parietals broader; four upper labials. Diameter of the body is 29-34 times in the total length; tail is as long as broad, or broader than long, terminating in a spine. These are the only Typhlopids outside of Africa known to retain a left lung.

Distribution: India, across south-east Asia east to island New Guinea. Most specimens are reported in the literature as the species *diardii*, but based on obvious and published morphological differences, several species are involved and some have been formally described, including those listed herein.

Comment: The status of some of the taxa listed below is uncertain, in particular that of *A. fusconotus* (Brongersma, 1934). If the type was in fact collected from Irian Jaya as reported, it most certainly is a valid species-level taxon.

Content: *Argyophis diardii* (Schlegel, 1839) (Type species), *A. bothriorhynchus* (Günther, 1864), *A. fusconotus* (Brongersma, 1934), *A. giadinhensis* (Bourret, 1937), *A. horsfieldii* Gray, 1845, *A. hypsobothrius* (Werner, 1917), *A. klemmeri* (Taylor, 1962), *A. koekkoeki* (Brongersma, 1934), *A. koshunensis* (Oshima, 1916), *A. lorenzi* (Werner, 1909), *A. muelleri* (Schlegel, 1839), *A. nigroalbus* (Duméril and Bibron, 1844), *A. oatesii* (Boulenger, 1890), *A. roxanae* (Wallach, 2001), *A. siamensis* (Günther, 1864), *A. tenuicollis* (Peters, 1864), *A. trangensis* (Taylor, 1962) *A. wilsoni* (Wall, 1908).

TRIBE KATRINAHOSERTYPLOPINI TRIBE NOV.

(Terminal Taxon: *Typhlops ruber* Boettger, 1897)

Diagnosis: The tribe is monotypic for the genus *Katrinahosertyphlops* gen. nov. diagnosed herein.

Katrinahosertyphlops gen. nov. is separated from all other blindsnake genera by the following suite of characters: Head flattened; snout rounded and strongly projecting; nostrils lateral; rostral broad, its top a little wider than a third of the head width, its posterior margin not reaching to eye level; nasals in contact behind the rostral; praeocular is present, in contact with the third labial only; praefrontal is larger than the frontal; supraoculars are smaller than the parietals; four upper labials; second is twice as large as the first. Deep black above or otherwise dark and yellowish or lighter ventrally. Diameter of the body is 36-37 times in total length; tail slightly wider than long, and ends in a weak spine. 26-28 mid-body scale rows.

Distribution: Philippines and nearby areas including Indonesia.

Etymology: Named in honour of my mother, Katrina Hoser, for various contributions to herpetology spanning nearly 50 years as well as her valuable role in supporting the shoe manufacturing industry globally.

Content: *Katrinahosertyphlops* gen. nov.

GENUS KATRINAHOSERTYPHLOPS GEN. NOV.

Type species: *Typhlops ruber* Boettger, 1897

Diagnosis: *Katrinahosertyphlops* gen. nov. is separated from all other blindsnake genera by the following suite of characters: Head flattened; snout rounded and strongly projecting; nostrils lateral; rostral broad, its top a little wider than a third of the head width, its posterior margin not reaching to eye level; nasals in contact behind the rostral; praeocular is present, in contact with the third labial only; praefrontal is larger than the frontal; supraoculars are smaller than the parietals; four upper labials; second is twice as large as the first. Deep black above or otherwise dark and yellowish or lighter ventrally. Sometimes has a brown or red-head. These species usually have a strongly contrasting bicolor pattern (dark dorsum and light venter) and vestigial or absent rectal caecum. Diameter of the body is 36-37 times in total length; tail slightly wider than long, and ends in a weak spine. 24-28 mid-body scale rows.

Distribution: Philippines and nearby areas including Indonesia.

Etymology: Named in honour of my mother, Katrina Hoser, for various contributions to herpetology spanning nearly 50 years as well as her valuable role in supporting the shoe manufacturing industry globally.

Content: *Katrinahosertyphlops ruber* (Boettger, 1897) (Type species), *K. canloanensis* (Taylor, 1917), *K. castanotus* (Wynn and Leviton, 1993), *K. collaris* (Wynn and Leviton, 1993), *K. dichromatus* (Jan, 1864), *K. fuscus* (Duméril and Bibron, 1844), *K. hypogius* (Savage, 1950), *K. kraali* (Doria, 1874), *K. luzonensis* (Taylor, 1919), *K. ruficaudus* (Gray, 1845), *K. suluensis* (Taylor, 1918).

TRIBE LENHOSERTYPHLOPINI TRIBE NOV.

(Terminal taxon: *Typhlops vermicularis* Merrem, 1820)

Diagnosis: This is a monotypic tribe for the genus *Lenhosertyphlops* gen. nov. and hence the diagnosis for the tribe is the same as for the genus.

Lenhosertyphlops gen. nov. is separated from all other Blind Snakes by the following suite of characters: Snout is depressed and rounded, strongly projecting; nostrils are lateral. The rostral is about one-third of the width of the head, extending nearly to the level of the eyes; nasal is incompletely divided, the cleft proceeding from the second labial; praeocular is present, about as broad as the ocular, in contact with the second and third labials; eyes are distinguishable; upper head scales are moderately enlarged; four upper labials. Diameter of the body is 40-52 times in the total length. The tail is about as long as broad and ends in a spine. There are 22-24 mid body rows. Colour is brownish above and lighter (usually yellowish) ventrally.

Distribution: In the region around the Middle-east, including Albania, Yugoslavia, Bulgaria, Greece (incl. Corfu = Corfou, Lesbos, Chios, Limnos, Samos, Thassos), Romania, Turkey, Cyprus, South Russia (Caucasus, Dagestan), Armenia, Azerbaijan, Georgia, South Turkmenistan, Tajikistan, Uzbekistan, Egypt, Syria, Israel, Lebanon, Jordan, Iraq, Iran, Afghanistan and Pakistan.

Etymology: Named in honour of my father, Len Hoser, for various contributions to herpetology spanning over 30 years until his death.

Content: *Lenhosertyphlops* gen. nov.

GENUS LENHOSERTYPHLOPS GEN. NOV.

Type species: *Typhlops vermicularis* Merrem, 1820

Diagnosis: *Lenhosertyphlops* gen. nov. is separated from all other Blind Snakes by the following suite of characters: Snout is depressed and rounded, strongly projecting; nostrils are lateral. The rostral is about one-third of the width of the head, extending nearly to the level of the eyes; nasal is incompletely divided, the cleft proceeding from the second labial; praeocular is present, about as broad as the ocular, in contact with the second and third labials; eyes are distinguishable; upper head scales are moderately enlarged; four upper labials. Diameter of the body is 40-52 times in the total length. The tail is about as long as broad and ends in a spine. There are 22-24 mid body rows. Colour is brownish above and lighter (usually yellowish) ventrally.

Distribution: In the region around the Middle-east, including Albania, Yugoslavia, Bulgaria, Greece (incl. Corfu = Corfou, Lesbos, Chios, Limnos, Samos, Thassos), Romania, Turkey, Cyprus, South Russia, Armenia, Azerbaijan, Georgia, South Turkmenistan, Tajikistan, Uzbekistan, Egypt, Syria, Israel, Lebanon, Jordan, Iraq, Iran, Afghanistan and Pakistan.

Etymology: Named in honour of my father, Len Hoser, for various contributions to herpetology spanning over 30 years until his death.

Content: *Lenhosertyphlops vermicularis* (Merrem, 1820) (Type species), *Lenhosertyphlops etheridgei* (Wallach, 2002), *Lenhosertyphlops socotranus* (Boulenger, 1889).

TRIBE CROTTYTYPHLOPINI TRIBE NOV.

(Terminal Taxon: *Typhlops porrectus* Stoliczka, 1871)

Diagnosis: Crottytyphlopini is separated from all other typhlopids by the following suite of characters: Snout is round and moderately projecting, 4 upper labials, 18 scale rows, a narrow rostral, lateral nostrils and a tail that is longer than broad; all species except *porrectus* have a paucicameral tracheal lung.

The species *porrectus* (genus *Crottytyphlops* gen. nov.) is separated from all other Typhlopids, including those within this tribe, by the following suite of characteristics: Snout is round and moderately projecting; lateral nostrils. The rostral is narrow, its upper portion one third the width of the head, not extending quite to the level of the eyes, which are very indistinct; nasal semidivided, the cleft extending from the second labial to the nostril; praeocular present, nearly as large as the upper ocular; upper head scales a little larger than the scales on the body; four upper labials. Diameter of the body is 70 to 90 times in the length. Tail a little longer than broad, terminating in a spine and with 18 rows of scales around the body. Brown above and paler underneath. Snout, chin and lower surface of the tail is white.

The genus *Arnoldtyphlops* gen. nov. is separated from all other *Crottytyphlopini* tribe nov. by being the only Blindsnakes in the tribe that does not have enlarged occipitals (further detail is in the *Arnoldtyphlops* gen. nov. description).

Freudtyphlops gen. nov. include, a supralabial imbrication pattern of both second and third supralabials overlapping shields above them, 348-413 mid dorsal scales, 9-12 subcaudals, 60-93 times the mid-body width into the length, one postocular, no suboculars, 0.30-0.33 rostral to head width.

Distribution: Southern and Eastern Asia.

Etymology: See for *Crottytyphlops* gen. nov. below.

Content: *Arnoldtyphlops* gen. nov., *Crottytyphlops* gen. nov., *Freudtyphlops* gen. nov.

GENUS CROTTYTYPHLOPS GEN. NOV.

Type species: *Typhlops porrectus* Stoliczka, 1871

Diagnosis: *Crottytyphlops* gen. nov. is separated from all other typhlopids by the following suite of characters: Snout is round and moderately projecting, 4 upper labials, 18 scale rows, a narrow rostral, lateral nostrils and a tail that is longer than broad and a paucicameral tracheal lung.

The species *porrectus* is separated from all other Typhlopids, including those within this tribe, by the following suite of characteristics: Snout is round and moderately projecting; lateral nostrils. The rostral is narrow, its upper portion one third the width of the head, not extending quite to the level of the eyes, which are very indistinct; nasal semidivided, the cleft extending from the second labial to the nostril; praeocular present, nearly as large as the upper ocular; upper head scales a little larger than the scales on the body; four upper labials. Body width into the length is usually in the range of 62-76 times, or 87-91 times; middorsals are either 337-342, or 412-461.

Tail a little longer than broad, terminating in a spine and

with 18 rows of scales around the body. Brown above and paler underneath. Snout, chin and lower surface of the tail is white.

Other species of Typhlopids have been described and subsequently made synonymous with *porrectus*, including *Typhlops mackinnoni* Wall, 1910, *Typhlops ductuliformes* Khan, 1999, *T. ahsanuli* Khan, 1999, *T. madgemintonae* Khan, 1999, *T. m. shermani* Khan, 1999, and *Typhlops venningi* Wall, 1913. Some or all these may prove to be valid species.

Two of these just named, *T. madgemintonae* Khan, 1999, and *T. ahsanuli* Khan, 1999 are recognized herein as a valid species and also placed within their own subgenus, *Rolyburrellus* subgen. nov., which is diagnosed below.

The species *Porrectus* within the nominate subgenus *Crottytyphlops* subgen. nov. (and currently monotypic for it) is diagnosed by the following suite of characters:

Relatively thin, weak bodied, lightbrown snakes with an incompletely divided nasal scale; there is a pattern of micro-striations on the surface of the flared parts of body scales; total body length 130 - 210 mm; body diameter 1.8-1.9; tail straight, with very gradual taper, with a terminal cone; body width into the length is usually in the range of 87-91 times; middorsals are 412-461.

Rolyburrellus subgen. nov. is separated from the nominate subgenus by the following suite of characters: Relatively stout, thick bodied, dark brown snakes; body length rarely exceeds

190 mm; body diameter 2.5-2.7; middorsals 337-342; variations in the extent of the narial suture:

100, 75, 50, or 25% complete; body width into the length is usually in the range of 62-76 times; tail with strong ventral curve, tail tapers suddenly at its middle and ends in a thick sharp cuspidate spine with embossed round base.

Distribution: Southern and Eastern Asia.

Etymology: Named in honour of my Great Dane cross Rottweiler dog that lived from 1989 to 2002 named *Crotalus* (*Crotty* for short) in recognition of his loyal devotion to his human owner, and for protecting the facility from burglars and the like trying to stop publication of the two *Smuggled*, books (Hoser, 1993, 1996), which by their publication ultimately led to a forced rewrite of laws, in Australia, effectively reversing a two decade ban on private ownership and possession of reptiles.

While it may seem odd recognizing a dog for his contribution to herpetology in Australia, there is no doubt that had he not protected our facility from the attackers we faced, these books would not have been finished, or if they were, after considerably greater delays.

It is hoped that herpetologists in Australia and elsewhere will recognise the enormous contributions made to their science and "hobby" by this dog.

This dog by his actions also allowed three books detailing police and judicial corruption in Victoria (Hoser, 1995, 1999a, 1999b), one of which (*Victoria Police Corruption - 2*) (Hoser 1999b), through it's publication resulted in the unexpected demise of the corrupt, totalitarian and despotic political regime led by Jeffrey Gibb Kennett the same year, the shock resignation of

Police Commissioner Neil Comrie and numerous other police officers subsequently being charged and jailed for offences ranging through drug trafficking, assaults, perjury and other serious crimes.

In other words, this dog's actions benefited the community outside those who have an interest in wildlife. PS *Crotalus* is the scientific name of a large Pitviper.

Content: *Crottytyphlops porrectus* (Stoliczka, 1871) (Type species), *C. ahsanuli* (Khan, 1999), *C. madgemintonae* (Khan, 1999).

SUBGENUS ROLYBURRELLUS SUBGEN. NOV.

Type species: *Typhlops madgemintonae* Khan, 1999

Diagnosis: The species *Porrectus* and the nominate subgenus *Crottytyphlops* are diagnosed by the following suite of characters: Relatively thin, weak bodied, lightbrown snakes with an incompletely divided nasal scale; there is a pattern of micro-striations on the surface of the flared parts of body scales; total body length 130 - 210 mm; body diameter 1.8-1.9; tail straight, with very gradual taper, with a terminal cone; body width into the length is usually in the range of 87-91 times; middorsals are 412-461.

Rolyburrellus subgen. nov. is separated from the nominate subgenus by the following suite of characters: Relatively stout, thick bodied, dark brown snakes; body length rarely exceeds

190 mm; body diameter 2.5-2.7; middorsals 337-342; variations in the extent of the narial suture:

100, 75, 50, or 25% complete; body width into the length is usually in the range of 62-76 times; tail with strong ventral curve, tail tapers suddenly at its middle and ends in a thick sharp cuspidate spine with embossed round base.

Distribution: Azad Kashmir and Punjab, Pakistan.

Etymology: Named in honour of Roland (Roly) Burrell of Adelaide, South Australia for many contributions to herpetology spanning some decades. He was also one of the two founders of the successful "Ultimate Reptile Supplies" business with Tim Mensforth, based in South Australia, in an Australian state where an all powerful government-owned zoo would not use it's position to squash any perceived competitors.

Burrell sold his his half of the business to Tim, the business of which was in 2012 still going from strength to strength.

Content: *Crottytyphlops (Rolyburrellus) madgemintonae* (Khan, 1999) (Type species), *R. (Rolyburrellus) ahsanuli* (Khan, 1999).

GENUS ARNOLDTYPHLOPS GEN. NOV.

Type species: *Typhlops lazelli* Wallach and Pauwells, 2004.

Diagnosis: The genus *Arnoldtyphlops* gen. nov. is separated from all other *Crottytyphlopi* tribe nov. by being the only Blindsnakes in the tribe that does not have enlarged occipitals.

Other characteristics diagnostic for the genus include: Longitudinal scale rows 17-18-18 (both sexes), total middorsals 409-427, subcaudals 9-10, dorsocaudals 9-9. Three anal scales. Apical spine short and straight with stout base. Head rounded in dorsal view, not distinct from

the neck, with a truncated snout. Rostral oval, (0.32-0.33) head diameter and slightly broader than supranasals, not reaching the level of the eyes, in contact with frontal that separates the supranasals middorsally. Frontal 2.0 times as broad as long with rounded posterior border, smaller than supraoculars. Supraoculars transversely oriented, 1.5 times the size of costal or body scales. Parietals transverse, twice the size of the costals. Discretely enlarged occipitals lacking, subequal to costals in size. Postfrontal, inter parietal, and interoccipital larger and broader than frontal. Snout rounded in lateral view, supranasal broader than preocular with weak postnasal concavity. Nasal incompletely divided with inferior nasal suture contacting second supralabial. Superior nasal suture curving dorsomedially in an arc, extending 0.67-0.90 of the nostril-rostral gap and just visible in dorsal view. Nostril closer to rostral than preocular, directed laterally, its axis oriented at 45 degrees. Ocular subequal in size but slightly narrower than preocular.

Eye barely visible as a vague pigmented spot (discrete eyespot) beneath the ocular-supraocular suture near the supraocular-preocular junction. One postocular. Four supralabials, T-V SIP with both the second and third supralabials overlapping the shields above them. First supralabial half the size of second, second supralabial two-thirds the size of third, and third supralabial one-half the size of fourth. Mental not projecting beyond curvature of lower jaw. Three scales border cloacal opening. Tail with both the second and third supralabials overlapping the shields above them. First supralabial half the size of second, second supralabial two-thirds the size of third, and third supralabial one half the size of fourth. Mental not projecting beyond curvature of lower jaw. Three scales border cloacal opening. Tail with abrupt taper near tip. Apical spine lacking, tail terminus covered by an obtusely pointed cone. An apparently anomalous condition in the paratype (*lazelli*) is the partial fusion, on both sides of the head, of the dorsolateral portion of the postnasal with the preocular and the preocular with the ocular.

Cephalic glands confined to sutures between scales. One pair of lateral tongue papillae present just proximal to level of bifurcation of lingual tips.

Middorsal nine scale rows pigmented lightly brown with a darker brown spot covering anterior quarter to fifth of scale; midventral nine rows lightly stippled in brown with white background and outer margins. Anterior snout (most of rostral, nasals, peroculars, oculars, and labials), chin, and throat white; a median longitudinal white bar occurs on throat of holotype. Rostral of holotype (*lazelli*) white with central brown bar; in paratype (*lazelli*) the entire rostral is brown. Ventrally, the cloacal region to tail tip white. Paratype (*lazelli*) with a few scattered midventral white scales. The preceding description was effectively paraphrased from Wallach and Pauwells (2004).

Etymology: Named in honor of a large female Shingleback (*Trachydosaurus rugosus*), named Arnold, who featured in Snakebusters - hands on reptiles, wildlife education shows for 8 years and educated many thousands of children and adults about reptiles. Notably she was a slut in that she slept with anyone, including a

Blotched Bluetongue (*Tiliqua nigrolutea*) named Grumpy and was loved by everyone.

Arnold did have a husband so to speak, another male, known merely as her husband, acquired at the same time as Arnold in 2004, who was a very quiet lizard, but who would attack any other lizard that came near his wife, when in the same cage.

But we used to rotate the lizards about, meaning that often Arnold was not with her husband at which times she happily mated with anyone else including other Shinglebacks and as mentioned a grumpy male Blotched Bluetongue.

Arnold is recognized for her loyal ambassadorial role for the squamate class in terms of de-demonizing reptiles and helping the wildlife conservation effort and her immaculate behaviour as she was handled by the tens of thousands of people, many of whom would have previously treated other snakes and lizards in disdain.

Content: *Arnoldtyphlops lazelli* (Wallach and Pauwells, 2004) (Type species).

GENUS *FREUDTYPHLOPS* GEN. NOV.

Type species: *Typhlops exiguus* Jan, 1864

Diagnosis: *Freudtyphlops* gen. nov. is best defined by excluding the other two genera within the tribe Crottytyphlopini gen. nov., namely *Crottytyphlops* gen. nov. and *Arnoldtyphlops* gen. nov..

Crottytyphlopini is separated from all other typhlopids by the following suite of characters: Snout is round and moderately projecting, 4 upper labials, 18 scale rows, a narrow rostral, lateral nostrils and a tail that is longer than broad.

All species except *porrectus* (*Crottytyphlops* gen. nov.) have a paucicameral tracheal lung.

The genus *Arnoldtyphlops* gen. nov. is separated from all other *Crottytyphlopini* tribe nov. by being the only Blindsnakes in the tribe that does not have enlarged occipitals.

All other blindsnakes within the tribe belong to the genus *Freudtyphlops* gen. nov.

Other features diagnostic of *Freudtyphlops* gen. nov. include, a supralabial imbrication pattern of both second and third supralabials overlapping shields above them, 348-413 mid dorsal scales, 9-12 subcaudals, 60-93 times the mid-body width into the length, one postocular, no suboculars, 0.30-0.33 rostral to head width.

Distribution: Southern Asia and East Asia.

Etymology: Named in honour of a Dachund cross Doberman dog named Freud, in honour of the psychologist Sigmund Freud, which I obtained as a stray on a Sydney (Australia) train in about 1970, when I was aged about 8 and had him for about another nine years. This dog was excellent at finding huge quantities of reptiles, which I kept and studied, thereby facilitating my future career in herpetology.

He eventually died during Easter in 1979 in thick scrub near Oxford Falls (New South Wales) when he decided to tackle an adult Red-bellied Black Snake (*Pseudechis porphyriacus*) that bit him. It took exactly an hour for the venom to kill the dog, although he was "knocked down" within seconds of the bite.

Content: *Freudytyphlops exiguus* (Jan, 1864) (Type species), *F. filiformis* (Duméril and Bibron, 1844), *F. loveridgei* (Constable, 1949), *F. meszoelyi* (Wallach, 1999), *F. schmutzi* (Auffenberg, 1980).

TRIBE CYCLOTYPHLOPINI TRIBE NOV.

(Terminal taxon: *Cyclotyphlops deharvengi* In Den Bosch and Ineich, 1994).

Diagnosis: The Blindsnakes in this tribe are separated from all others by the pileus constellation of *Cyclotyphlops deharvengi*, the monotypic species within this tribe, which is unique among reptiles. The large central circular head shield, around which smaller scales radiate, might cover what could be a parietal eye, which has never been found in snakes before.

Distribution: Sulawesi, Indonesia.

Content: *Cyclotyphlops* In Den Bosch and Ineich, 1994

GENUS CYCLOTYPHLOPS IN DEN BOSCH AND INEICH, 1994

Type species: *Cyclotyphlops deharvengi* In Den Bosch and Ineich, 1994

Diagnosis: See above.

Content: *Cyclotyphlops deharvengi* In Den Bosch and Ineich, 1994 (Type species).

TRIBE GRYPTOTYPHLOPIDINI TRIBE NOV.

(Terminal taxon: *Onychocephalus acutus* Duméril and Bibron, 1844)

Diagnosis: The diagnosis for the tribe Gryptotyphlopini tribe nov. is the same as for the monotypic genus (*Gryptotyphlops* Peters, 1881) and the species, *Gryptotyphlops acutus*.

This taxon is separated from all other typhlopids by the following suite of characters: The snout is pointed and hooked, with a very sharp horizontal edge and inferior nostrils. The rostral is very large and extending posteriorly far beyond the level of the eyes; nostrils are close to the rostral; nasal extending over the eye, in contact with and nearly as broad as the ocular; a praecocular and a subocular; eyes distinguishable; praefrontal and supraoculars much broader than the scales on the body; four upper labials. Diameter of the body is 40 to 60 times in the total length; tail as long or shorter than broad, terminating in a spine. 28-34 scales around the middle of the body, 30-36 anteriorly. Pale brown above, each scale with or without a transverse streak; yellowish inferiorly.

Distribution: India.

Content: *Gryptotyphlops* Peters, 1881.

GENUS GRYPTOTYPHLOPS PETERS, 1881

Type species: *Onychocephalus acutus* Duméril and Bibron, 1844

Diagnosis: See above.

Distribution: India.

Content: *Gryptotyphlops acutus* (Duméril and Bibron, 1844).

FAMILY XENOTYPHLOPIDAE VIDAL ET. AL. 2010

Diagnosis: See above.

TRIBE XENOTYPHLOPIDINI TRIBE NOV.

(Terminal taxon: *Typhlops grandidieri* Mocquard, 1905)

Diagnosis: Wallach and Ineich (1996) erected the genus *Xenotyphlops* to reflect the distinctness of this blind snake group, now placed in the family Xenotyphlopidae and this tribe, monotypic for the genus.

Diagnostic features are listed below:

Xenotyphlopini tribe nov. shares some peculiar characteristics typical of the Leptotyphlopidae (e.g., single enlarged anal shield, absence of a tracheal lung, cranially positioned heart with long heart-liver gap, heavily vascularized, unicameral right lung lacking avascular terminal portion, and type G bronchial foramina). However other diagnostic characters corroborate inclusion within the Typhlopoidea (e.g., dentigerous maxilla (see above) and edentulous dentary, 20 midbody scale rows, costal/vertebral ratio greater than 1.0, a single pelvic element, left liver lobe forming anterior extension, and unipartite liver). On the other hand, some further characters suggested a relationship to the genera *Rhinotyphlops* and *Letheobia*, such as the lack of a visible eye, reduction of most head shields, T-0 supralabial imbrication pattern (no supralabials overlap the scales above), corneal cutting edge on rostral, inferiorly located nostrils, elongated body with uniform diameter throughout, and absence of scale row reduction, pigmentation and apical spine. Additionally, a unique Scolecophidian feature was described: soft, flexible cephalic papillae on the rostral shield (Wallach and Ineich, 1996: Fig. 1).

There are only two described species within the family and genus *Xenotyphlops*, both of which are very similar.

Distribution: Madagascar,

Content: *Xenotyphlops* Wallach and Ineich, 1996.

GENUS XENOTYPHLOPS WALLACH AND INEICH, 1996

Type species: *Typhlops grandidieri* Mocquard, 1905

Diagnosis: See above:

Distribution: Madagascar.

Content: *Xenotyphlops grandidieri* (Mocquard, 1905), *Xenotyphlops mocquardi* Wallach, Mercurio and Andreone, 2007.

FAMILY GERRHOPILIDAE VIDAL ET. AL. 2010

Diagnosis: See above.

TRIBE GERRHOPILIDINI TRIBE NOV.

(Terminal Taxon: *Typhlops ater* Schlegel, 1839)

Diagnosis: As for the family above.

The genus *Gerrhopilus* was originally defined by Fitzinger in 1843, by the presence of gland-like structures 'peppered' over the scales of the head (minimally the rostral and nasals, but often other scales on the head and chin). A divided preocular and/or ocular is common and all species have overlap of the preocular (or subpreocular when present) by the second supralabial (except in the species *G. tindalli*). Vidal et. al. (2010) created the family Gerrhopilidae as monotypic for the genus *Gerrhopilus* as then defined. In most other respects the group shares affinities with the Typhlopids, which is the group they were formerly placed in, being phylogenetically basal to both the Xenotyphlopids and the Typhlopids.

The genus *Gerrhopilus* is subdivided in this paper to form two tribes and three genera, the new ones being formally named herein. Based on the results of Vidal et al. (2012), the tribes defined herein have common ancestry dating back about 100 million years.

The genus *Billmacordus* gen. nov. (within the tribe Gerrhopilini tribe nov.) are separated from the snakes within the genus *Gerrhopilus* by the following suite of characteristics: rostral is rounded if viewed from above and strongly keeled to form a downward pointing "beak-like" projection, 20-24 mid-body rows, ocular and preocular are not fragmented, there is a single subocular between the ocular and fourth upper labial; dorsal scales in 653 rows, including 25 above the tail beyond the point of the vent; nasal is incompletely divided by the nasal cleft, 4 supralabials; 2 infralabials.

The tribe Cyrilhoserini tribe nov. is separated from the tribe Gerrhopilidini tribe nov. by the following suite of characters: in snakes in Cyrilhoserini tribe nov. the snout is round and moderately prominent. The rostral is broad and about half the head width; the nostril is between two nasals, the anterior of which is small and in contact with the first and second labials; a praeocular, nearly as large as the ocular; which is in contact with the fourth labial; a subocular separating the praeocular and ocular from the second and third labials; eyes indistinct; upper head scales a little larger than the scales on the body; four upper labials. Diameter of the body is 43-60 times in the total length; the tail is marginally longer than broad, ending obtusely without a spine, and there are 18 rows of scales around the mid-body. Dorsally brown in colour, the snout and underside are yellowish.

Distribution: Southern Asia generally and the region north of Australia.

Content: *Billmacordus* gen. nov., *Gerrhopilus* Fitzinger, 1843.

GENUS GERRHOPILUS FITZINGER, 1843

Type species: *Typhlops ater* Schlegel, 1839

Diagnosis: As for the family above and tribe above via and including the exclusion of the other genera defined as within the family Gerrophilidae.

Distribution: Asia and the region north of Australia.

Content: *Gerrhopilus ater* (Schlegel, 1839) (Type species), *G. andamanensis* (Stolicza, 1871), *G. bisubocularis* (Boettger, 1893), *G. carolinehoserae* sp. nov., *G. floweri* (Boulenger, 1899), *G. fredparkeri* (Wallach, 1996), *G. hades* (Kraus, 2005), *G. hedraeus* (Savage, 1950), *G. inornatus* (Boulenger, 1888), *G. mcdowellii* (Wallach, 1996).

GERRHOPILUS CAROLINEHOSERAЕ SP. NOV.

Holotype: A specimen collected from the Talaud Archipelago, Indonesia, lodged at the Museum Zoologicum Bogoriense (MZB), Java, Indonesia.

This Museum is a government owned facility that allows researchers access to their collection.

Diagnosis: This species would normally be identified as *G. hedraeus* (Savage, 1950) from which it is easily separated by the following suite of characters: 255 ventrals, 13 or 14 subcaudals; the eye is restricted to the ocular scale not reaching the

suture to the preocular; a subocular is absent (in contrast to *G. ater* from Sulawesi, the Moluccas and New Guinea). *G. carolinehoserae* sp. nov. has two preoculars (versus one in *G. hedraeus*) and the latter is not smaller than the ocular. The upper jaw is not visible laterally. This species (*G. carolinehoserae* sp. nov.) appears to be most closely *G. hedraeus* which is found on several Philippine Islands including Mindanao, Luzon and Negros, the type locality.

Distribution: *G. carolinehoserae* sp. nov. is known only from the type locality, the Talaud Archipelago, Indonesia, which lies between the biogeographic realms of Sulawesi, the Philippines, and the Moluccas.

Etymology: Named in honor of Caroline Hoser of the UK, who spent considerable time with myself doing herpetological fieldwork on Death Adders (*Acanthophis antarcticus*) from West Head, NSW, Australia and who also spent considerable time working with me on python taxonomy in the early 1980's.

GENUS BILLMACORDUS GEN. NOV.

Type species: *Typhlops depressiceps* Sternfeld, 1913

Diagnosis: *Billmacordus* gen. nov. is separated from the snakes within the genus *Gerrhopilus* by the following suite of characteristics: rostral is rounded if viewed from above and strongly keeled to form a downward pointing "beak-like" projection, 20-24 mid-body rows, ocular and preocular are not fragmented, there is a single subocular between the ocular and fourth upper labial; dorsal scales in 653 rows, including 25 above the tail beyond the point of the vent; nasal is incompletely divided by the nasal cleft, 4 supralabials; 2 infralabials.

Distribution: Known only from the region of Papua New Guinea.

Etymology: Named in honour of New York, USA based veterinary surgeon and herpetologist William (Bill) McCord for his excellent work on the systematics of Australasian freshwater chelonians including those from the islands north of Australia.

Content: *Billmacordus depressiceps* (Sternfeld, 1913) (Type species).

TRIBE CYRILHOSERINI TRIBE NOV.

(Terminal taxon: *Typhlops (Diaphorotyphlops) mirus* Jan, 1860)

Diagnosis: The tribe Cyrilhoserini tribe nov. is separated from the tribe Gerrhopilidini tribe nov. by the following suite of characters: snout is round and moderately prominent. The rostral is broad and about half the head width; the nostril is between two nasals, the anterior of which is small and in contact with the first and second labials; a praeocular, nearly as large as the ocular; which is in contact with the fourth labial; a subocular separating the praeocular and ocular from the second and third labials; eyes indistinct; upper head scales a little larger than the scales on the body; four upper labials. Diameter of the body is 43-60 times in the total length; the tail is marginally longer than broad, ending obtusely without a spine, and there are 18 rows of scales around the mid-body. Dorsally brown in colour, the snout and underside are yellowish.

The tribe contains the genus *Cyrilhoserus* gen. nov.

Distribution: Known only from Sri Lanka.

Etymology: Named in recognition of Cyril Hoser of Margate, United Kingdom, for various assistances to herpetology.

Content: *Cyrilhoserus* gen. nov.

GENUS CYRILHOSERUS GEN. NOV.

Type species: *Typhlops (Diaphorotyphlops) mirus* Jan, 1860.

Diagnosis: The diagnosis for the genus *Cyrilhoserus* gen. nov. is the same as that of the tribe *Cyrilhoserini* tribe nov..

Cyrilhoserus gen. nov. is separated from the tribe *Gerrhopilidini* tribe nov. by the following suite of characters: snout is round and moderately prominent. The rostral is broad and about half the head width; the nostril is between two nasals, the anterior of which is small and in contact with the first and second labials; a praeocular, nearly as large as the ocular; which is in contact with the fourth labial; a subocular separating the praeocular and ocular from the second and third labials; eyes indistinct; upper head scales a little larger than the scales on the body; four upper labials. Diameter of the body is 43-60 times in the total length; the tail is marginally longer than broad, ending obtusely without a spine, and there are 18 rows of scales around the mid-body. Dorsally brown in colour, the snout and underside are yellowish.

Distribution: Known only from Sri Lanka.

Etymology: Named in recognition of Cyril Hoser of Margate, United Kingdom, for various assistances to herpetology.

Content: *Cyrilhoserus mirus* (Jan, 1860) (type species), *C. beddomii* (Boulenger, 1890), *C. ceylonicus* (Smith, 1943), *C. oligolepis* (Wall, 1909), *C. tindalli* (Smith, 1943).

FAMILY LEPTOTYPHLOPIDAE STEJNEGER, 1892

Diagnosis. The following diagnosis for the Leptotyphlopids is effectively quoted verbatim from Adalsteinsson et. al. (2009).

Leptotyphlopidae are small and thin snakes sharing with other members of *Scolecophidia* cylindrical bodies, ventral scales not enlarged, reduced eyes with a single visual cell type in the retina, and the absence of neural spines.

They have solidly constructed skulls with toothless premaxillary, maxillary, and palatine bones sutured to the braincase along with the nasals and prefrontals. They lack a left lung, a tracheal lung, and a left oviduct (Dowling and Duellman 1978, Underwood 1967, Vitt and Caldwell 2009). Except for two species having 16 midbody scale rows and two others having 14 or 16 rows, all of the other members of the family usually have 14 midbody scale rows. The maximum adult size of each species ranges from 104 mm (*Tetracheilostoma carlae*) to 460 mm (*Rhinoleptus koniagu*) in total length; see discussion of body size in Leptotyphlopoid snakes (Hedges 2008).

It should be noted also that Adalsteinsson et. al. (2009), also (and very appropriately) divided the Leptotyphlopids into five tribes and various subtribes, thereby negating

the need for me to do this for these groups herein.

All tribes, subtribes and genera as listed in the content list below are defined by Adalsteinsson et. al. (2009) and those definitions are accepted herein unless indicated otherwise or a group is further split herein, in which case a definition for the new group is provided.

Adalsteinsson et. al. (2009) also published a list of all (then) recognized Leptotyphlopoid species.

Content: *Bobbottomus* gen. nov., *Crishagenus* gen. nov., *Epacrophis* Hedges, Adalsteinsson and Branch, 2009, *Epictia* Gray, 1845, *Evanwhittonus* gen. nov., *Karimdaouesus* gen. nov., *Leptotyphlops* Fitzinger, 1843, *Mitophis* Hedges, Adalsteinsson and Branch, 2009, *Myriopholis* Hedges, Adalsteinsson and Branch, 2009, *Namibiana* Hedges, Adalsteinsson and Branch, 2009, *Rena* Baird and Girard, 1853, *Rhinoleptus* Orejas-Miranda, Roux-Estève and Guibé, 1970, *Scanlonus* gen. nov., *Siagonodon* Peters, 1881, *Tetracheilostoma* Jan, 1861, *Trilepida* Hedges, 2011.

SUBFAMILY EPICTINAE HEDGES, ADALSTEINSSON AND BRANCH, 2009

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: South America, Central America and equatorial Africa.

TRIBE EPICTINI HEDGES, ADALSTEINSSON AND BRANCH, 2009

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: South America and Central America.

Content: *Crishagenus* gen. nov., *Epictia* Gray, 1845, *Mitophis* Hedges, Adalsteinsson and Branch, 2009, *Rena* Baird and Girard, 1853, *Siagonodon* Peters, 1881, *Trilepida* Hedges, 2011, *Tetracheilostoma* Jan, 1861.

SUBTRIBE EPICTINA HEDGES, ADALSTEINSSON AND BRANCH, 2009

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: South America and Central America.

Content: *Crishagenus* gen. nov., *Epictia* Gray, 1845, *Siagonodon* Peters, 1881.

GENUS CRISHAGENUS GEN. NOV.

Type species: *Leptotyphlops magnamaculata* Taylor, 1940

Diagnosis: *Crishagenus* gen. nov. species were formerly placed within the genus *Epictia* Gray, 1845, as defined by Adalsteinsson et. al. (2009) from which they are separated by the following combination of characters: snout slightly truncate in dorsal and ventral view, rounded, sometimes slightly acuminate in lateral view; supraocular present, not in contact with first supralabial; first supralabial may be longer than frontal, reaching eye level or short and not reaching the eye; rostral scale triangular or subtriangular in dorsal view; ocular hexagonal with straight shape at the eye level, sometimes with an expanded base; supraocular longer than frontal scale; temporal indistinct; fused caudals absent; interoccipital may be indistinct from dorsal scales; two supralabials (1+1); four infralabials; 227-262 middorsal scales; 213-246 midventral scales; 12-18 subcaudal scales; 10 scales around the middle of tail;

sometimes seven dorsal scale rows dark brown in the centre of scales with paler border forming longitudinal zig-zag lines, seven lateroventral scale rows brown in the centre of scales with border lighter forming soft zig-zag lines with a gular region paler than ventern or alternatively rostral white pigmented as apical spine or brownish as head coloration; seven dorsal scale rows with dark brown to brown center and lighter border forming longitudinal zig-zag lines; seven ventral scale rows uniformly brown, or alternatively a pattern with properties of both just described.

Adalsteinsson et. al. (2009), defined the genus *Epictia* Gray, 1845, (at the time including all species within *Crishagenus* gen. nov.) as having 14 midbody scale rows, 10 (rarely 12) midtail scale rows, 155-396 middorsal scale rows, 10-30 subcaudals, two supralabials, large anterior supralabials, 109-341 mm maximum adult total length, a body shape of 28-90 (width into total length), relative tail length 3.3-11.5%, a tail shape of 2.1-6.1, usually a striped pattern, multiple dorsal colors common (including reds and yellows), and usually a brown ventral color. These snakes have normal-sized supraoculars, although it is missing in the species *nasalis* (now placed in the genus *Crishagenus* gen. nov.) and this trait distinguishes *Epictia* from the other genus in the subtribe (*Epictina* Hedges, Adalsteinsson and Branch, 2009), *Siagonodon*, which lacks a supraocular. Other traits distinguishing *Epictia* and *Siagonodon* show overlap, but species of *Siagonodon* tend to have less midtail scale rows, a smaller first supralabial, and a lighter venter.

Comment: The Phylogeny produced by Adalsteinsson et. al. (2009), page 31, showed this group as diverging from the nominate *Epictia* species group more than 50 million years before present, confirming the need to place these snakes in a separate genus. By contrast the same authors recognized the genera *Rena* Baird and Girard, 1853 and *Tricheilostoma* Jan, 1860 which had a more recent divergence from a common ancestor, based on the same phylogeny produced by the same authors.

Distribution: Mainly in Middle America and the Caribbean.

Etymology: Named in recognition of Cris Hagen for his work on Chelodiniian systematics.

Content: *Crishagenus magnamaculata* (Taylor, 1940) (Type species), *C. columbi* (Klauber, 1939), *C. goudotii* (Duméril and Bibron, 1844), *C. nasalis* (Taylor, 1940).

GENUS EPICTIA GRAY, 1845

Type species: *Stenostoma albifrons* Wagler, 1824

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: South America.

Content: *Epictia albifrons* (Wagler, 1824) (Type species).

GENUS SIAGONODON PETERS, 1881

Type species: *Anguis septem-striatus* Schneider, 1801

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: *Siagonodon* is distributed east of the Andes in South America, from southeastern Venezuela, Guyana and French Guiana in the north to Argentina.

Content: *Siagonodon septemstriatus* (Schneider, 1801)

(Type species), *S. acutirostris* Pinto and Curcio, 2011, *S. borrichianus* (Degerbol, 1923), *S. cupinensis* (Bailey and Carvalho, 1946).

SUBTRIBE RENINA HEDGES, ADALSTEINSSON AND BRANCH, 2009

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: The subtribe Renina is distributed in the New World from North America (California, Utah, and Kansas), south through Middle and South America (exclusive of the high Andes) to Uruguay and Argentina on the Atlantic side.

Content: *Evanwhittonus* gen. nov., *Rena* Baird and Girard, 1853, *Trilepida* Hedges, 2011, *Tetracheilostoma* Jan, 1861.

GENUS RENA BAIRD AND GIRARD, 1853

Type species: *Rena humilis* Baird and Girard, 1853

Diagnosis: See Adalsteinsson et. al. (2009) and then refer to the diagnosis below to remove the single species taxon from *Rena*, that is now placed in the genus *Evanwhittonus* gen. nov.

Distribution: *Rena* is distributed from North America (California, Utah, and Kansas) south through much of Mexico, but not further south.

Species formerly referred to this genus from lower Middle and South America (exclusive of the high Andes) to Uruguay and Argentina on the Atlantic side have been removed from this genus and placed in *Trilepida* Hedges, 2011 in the case of all but one species (some made synonymous) and the species *Glauconia unguirostris* Boulenger, 1902, from Argentina, Paraguay, Bolivia has been placed in a newly defined genus *Evanwhittonus* gen. nov. described below.

Content: *Rena humilis* Baird and Girard, 1853 (Type species), *R. boettgeri* (Werner, 1899), *R. bressoni* (Taylor, 1939), *R. dissecta* (Cope, 1896), *R. dulcis* Baird and Girard, 1853, *R. humilis* Baird and Girard, 1853, *R. maxima* (Loveridge, 1932), *R. myopica* (Garman, 1884).

GENUS EVANWHITTONUS GEN. NOV.

Type species: *Glauconia unguirostris* Boulenger, 1902

Diagnosis: *Evanwhittonus* gen. nov. would normally identify as *Rena* Baird and Girard, 1853, from which it is separated by having a small anterior supralabial scale, which is unusual among New World Leptotyphlopids.

The genus is further diagnosed by the following suite of characters: snout is prominent, hooked and with a sharp horizontal edge. The rostral is broad, truncate behind, extending to the level of the anterior borders of the eyes which are perfectly distinct; nasal completely divided into two; ocular bordering the lip, between two labials. 14 midbody rows of scales around the body. Diameter of the body is 50 times in the total length; length of the tail is 26 times.

Colouration is pale brown above and white below.

Species of *Rena* and this genus (*Evanwhittonus* gen. nov.) are diagnosed by having 14 midbody scale rows, 10 (12 rarely) midtail scale rows, 168-312 middorsal scale rows, 9-21 subcaudals, 2-3 supralabials, moderate or large (rarely small) anterior supralabials, 205-389 mm maximum adult total length, a body shape of 26-60 (total length/width), a relative tail length of 3.1-8.6 %, a tail

shape of 1.9-3.8, no striped pattern, brown or purplish brown dorsal color, and white venter.

They also have a small supraocular scale. They are distinguished from the other genus in this subtribe, *Trilepida*, by having a white (not brown or pale brown) venter, usually two supralabials and in having a higher number (on average) of middorsal scales.

Distribution: Argentina, Paraguay, Bolivia.

Etymology: Named in honour of Evan Whitton of Sydney, NSW, Australia in recognition of his many excellent books and other publications detailing how corrupt the Australian legal system is and its general hatred of the truth. They should be mandatory reading for all Australians.

Content: *Evanwhittonus unguirostris* (Boulenger, 1902) (Type species).

GENUS TRILEPIDA HEDGES, 2011

Type species: *Stenostoma macrolepis* Peters, 1857

Diagnosis: Species of *Trilepida* have 14 midbody scale rows, 12 midtail scale rows, 173-288 middorsal scale rows, 6-16 subcaudals, three (two in *G. greenwelli*) supralabials, small anterior supralabials (large in *G. sundewalli*), 112-188 mm maximum adult total length, a body shape of 24-69.2 (total length/width), a relative tail length of 2.4-7.0%, a tail shape of 1.4-4.3, no striped pattern, a brown dorsum (unpigmented in *G. greenwelli*), and paler brown venter. They are distinguished from *Rhinoleptus*, by having 14 midbody scale rows (versus 16), 12 midtail rows (versus 14), 173-288 middorsal rows (versus 302-546), 6-16 subcaudals (versus 21-28), and a body shape of 24-69.2 (versus 67-77) (Adalsteinsson et. al. 2009).

Distribution: Central and South America.

Content: *Trilepida macrolepis* (Peters, 1857) (Type species), *T. affinis* (Boulenger, 1884), *T. anthracina* (Bailey, 1946), *T. brasiliensis* (Laurent, 1949), *T. brevissima* (Shreve, 1964), *T. dimidiata* (Jan, 1861), *T. dugandi* (Dunn, 1944), *T. fuliginosa* (Passos, Caramaschi and Pinto, 2006), *T. guayaquilensis* (Orejas-Miranda and Peters, 1970), *T. joshuai* (Dunn, 1944), *T. koppesi* (Amaral, 1955), *T. nicefori* (Dunn, 1946), *T. salgueiroi* (Amaral, 1955).

SUBTRIBE TETRACHEILOSTOMINA HEDGES, ADALSTEINSSON AND BRANCH, 2009

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: Tetracheilostomina is distributed in the West Indies: on the island of Hispaniola in the Greater Antilles, and on Martinique, Saint Lucia, and Barbados in the Lesser Antilles.

Content: *Mitophis* Hedges, Adalsteinsson and Branch, 2009, *Tetracheilostoma* Jan, 1861.

GENUS MITOPHIS HEDGES, ADALSTEINSSON AND BRANCH, 2009

Type species: *Leptotyphlops pyrites* Thomas, 1965

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: *Mitophis* is distributed on the Greater Antillean island of Hispaniola, including the countries of the Dominican Republic and Haiti.

Content: *Mitophis pyrites* (Thomas, 1965) (Type

species), *M. asbolepis* (Thomas, McDairmid and Thompson, 1985), *M. calypso* (Thomas, McDairmid and Thompson, 1985), *M. leptipileptus* (Thomas, McDairmid and Thompson, 1985).

GENUS TETRACHEILOSTOMA JAN, 1861

Type species: *Typhlops bilineatus* Schlegel, 1839

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: *Tetracheilostoma* is distributed on the Lesser Antillean islands of Martinique, Saint Lucia, and Barbados.

Content: *Tetracheilostoma bilineatum* (Schlegel, 1839) (Type species), *T. breuili* (Hedges, 2008), *T. carlae* (Hedges, 2008).

TRIBE RHINOLEPTINI HEDGES, ADALSTEINSSON AND BRANCH, 2009

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: Rhinoleptini is distributed in equatorial Africa, from southern Senegal, Guinea, and Bioko Island in the west to Ethiopia in the east.

Content: *Bobbottomus* gen. nov., *Rhinoleptus* Orejas-Miranda, Roux-Estève and Guibé, 1970, *Tricheilostoma* Hedges, Adalsteinsson and Branch, 2009.

GENUS TRICHEILOSTOMA HEDGES, ADALSTEINSSON AND BRANCH, 2009

Type species: *Stenostoma (Tricheilostoma) bicolor* Jan, 1860

Diagnosis: See Adalsteinsson et. al. (2009), where they erroneously identify the genus as *Guinea* Hedges, Adalsteinsson and Branch, 2009, as a newly named genus.

Distribution: Equatorial Africa, from southern Senegal, Guinea, and Bioko Island in the west to Ethiopia in the east.

Content: *Tricheilostoma bicolor* (Jan, 1860) (Type species), *T. broadleyi* (Wallach and Hahn, 1997), *T. dimidiatum* (Jan, 1861), *T. greenwelli* (Wallach and Boundy, 2005), *T. jani* Pinto and Fernandes, 2012, *T. sundewalli* (Jan, 1862).

GENUS RHINOLEPTUS OREJAS-MIRANDA, ROUX-ESTÈVE AND GUIBÉ 1970

Type species: *Typhlops koniagui* Villers, 1956

Diagnosis: Species in this genus have 16 midbody scale rows, 14 midtail scale rows, 302-546 middorsal scale rows, 21-30 subcaudals, 2-4 supralabials, small anterior supralabials, 160-460 mm maximum adult total length, a body shape of 67-160 (total length/width), a relative tail length of 3.7-10.0%, a tail shape of 3.5, no striped pattern, a brown dorsum, and brown venter.

They are distinguished from the genus *Tricheilostoma* (one of two other genera in this tribe),

by having 16 midbody scale rows (versus 14), 14 midtail rows (versus 12), 302-546 middorsal rows (versus 173-288), 21-30 subcaudals (versus 6-16), and a body shape of 67-160 (versus 24-69.2).

Bobbottomus gen. nov. (the third genus in this tribe) is separated from *Rhinoleptus* by having 16 scale rows on the body, 14 on the tail, and an undifferentiated cloacal shield. In addition the paravertebral scale rows extend forward to separate the parietals from the postfrontal.

The diameter of the body goes into the total length 67 times.

Distribution: *Rhinoleptus* is herein restricted to West Africa (*Rhinoleptus koniagui*), including Senegal, and Guinea, and Mali (Trape and Mané 2006), noting that specimens assigned to the taxon *koniagui* may in fact consist more than one species.

Specimens formerly assigned to this genus from East Africa (the species previously referred to as *Rhinoleptus parkeri*), in the vicinity of Ethiopia are herein referred to *Bobbottomus* gen. nov..

Content: *Rhinoleptus koniagui* (Villiers, 1956) (Type species).

GENUS *BOBBOTTOMUS* GEN. NOV.

Type species: *Leptotyphlops parkeri* Broadley, 1999

Diagnosis: *Bobbottomus* gen. nov. is separated from *Rhinoleptus* by having 16 scale rows on the body, 14 on the tail, and an undifferentiated cloacal shield. In addition the paravertebral scale rows extend forward to separate the parietals from the postfrontal. The diameter of the body goes into the total length 67 times.

Distribution: This monotypic genus is only known from Ethiopia.

Etymology: Named in honour of Robert (Bob) Bottom, in recognition of his fantastic work as an investigative journalist, including several best-selling books in the 1980's and early 1990's.

In recognition of his early excellent work as a corruption whistleblower, the government officials adversely named arranged to have Bottom charged with a criminal sex offence and as pre-determined he was found guilty in court of law.

The actual elements of the charge were the act of having sex with his wife!

I make mention of this latter material to show what happens when people blow the whistle on corruption in high places in Australia and how a corrupt legal system riddled with corrupt judges and magistrates makes findings for or against defendants in total defiance of either logic or the facts, in a legal system that not only hides the truth more often than not, but often has a paranoid fear of truth ever being publicly exposed.

Content: *Bobbottomus parkeri* (Broadley, 1999) (Type species).

SUBFAMILY LEPTOTYPHLOPINAЕ STEJNEGER, 1892

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: The Leptotyphlopinae are distributed throughout Africa (north and south of the Sahara Desert) as well as on nearby islands (Bazaruto archipelago, Pemba, Manda, Lamu, and Socotra), the Arabian Peninsula, and in southwest Asia (Turkey, Iran, Pakistan, and northwest India).

TRIBE EPACROPHINI HEDGES, ADALSTEINSSON AND BRANCH, 2009

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: Epacrophini is distributed in East Africa (Kenya and Somalia) and nearby islands (Manda and Lamu).

Content: *Epacrophis* Hedges, Adalsteinsson and Branch, 2009.

GENUS *EPACROPHIS* HEDGES, ADALSTEINSSON AND BRANCH, 2009

Type species: *Glauconia reticulata* Boulenger, 1906.

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: This genus is distributed in East Africa (Kenya and Somalia) and nearby islands (Manda and Lamu).

Content: *Epacrophis reticulatus* (Boulenger, 1906) (Type species), *E. boulengeri* (Boettger, 1913), *E. drewesi* (Wallach, 1996).

TRIBE MYRIOPHOLINI HEDGES, ADALSTEINSSON AND BRANCH, 2009

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: The tribe (and two genera) are distributed throughout Africa (north and south of the Sahara Desert), the Arabian Peninsula and Socotra Island, and in southwest Asia (Turkey, Iran, Pakistan, and northwest India). Most species are distributed in the northern portion of sub-Saharan Africa, including West Africa, Central Africa, and East Africa.

Content: *Myriopholis* Hedges, Adalsteinsson and Branch, 2009, *Scanlonus* gen. nov.

GENUS *MYRIOPHOLIS* HEDGES, ADALSTEINSSON AND BRANCH, 2009

Type species: *Stenostoma longicaudum* Peters, 1854

Diagnosis: This diagnosis is revised to accommodate the division of the genus as defined by Adalsteinsson et. al. (2009) to separate the species placed within the new genus *Scanlonus* gen. nov. named and defined below according to the Zoological Code (Ride et. al. 1999).

Scanlonus gen. nov. is in effect the sum total of the species within the genus *Myriopholis* as defined by Adalsteinsson et. al. (2009), minus the type species *M. longicaudus* (Peters, 1854) and the closely related taxon *M. ionidesi* (Broadley and Wallach, 2007).

Therefore to define this new genus (*Scanlonus* gen. nov.) it is simplest to in effect use the existing definition of *Myriopholis* as defined by Adalsteinsson et. al. (2009) and then to refer to the characters used to exclude the two relevant species from this genus.

Thus species within *Scanlonus* gen. nov. and *Myriopholis* have 14 midbody scale rows, 10-12 midtail scale rows, 165-558 middorsal scale rows, 25-58 subcaudals, two supralabials (three in *S. dissimilis*), a small anterior supralabial (moderate in *S. narirostris*), 103-293 mm maximum adult total length, a body shape of 27-138 (total of width into length), a relative tail length of 5.7-18.9 percent, a tail shape of 5.0-11.7, no striped pattern, usually a pale brown dorsum and white venter. Members of both genera and this tribe (the total of the tribe Myriopholini) can be

distinguished from the two other tribes in the subfamily Leptotyphlopinae by the presence of a higher average number of middorsal scales (165-558 versus 171-387) and subcaudals (25-58 versus 12-44). Also, members of the tribe usually have a white venter and semilunate cloacal shield whereas members of the Tribe Leptotyphlopini usually have a brown or pale brown

venter and a heart-shaped or subtriangular cloacal shield. Members of the Tribe Myriopholini also can be distinguished from the Tribe Epacrophini by the presence of a small anterior supralabial (moderate in size in Epacrophini).

The species *M. longicaudus* and the closely related taxon *M. ionidesi* (now the only members of the genus *Myriopholis*) are separated from species within the genus *Scanlonus* gen. nov. by an elongate skull with a postparietal bone separating the supraoccipitals, paired parietal bones more or less separated and sometimes the frontals also. There is a discrete frontal shield, a small anterior supralabial, a moderate posterior supralabial, a semilunate cloacal shield, a small apical spine, and brown dorsal pigmentation, paler below.

Distribution: South Somalia, Kenya, Tanzania, Malawi, Mozambique, Republic of South Africa (Transvaal, Swaziland), Zimbabwe, East Botswana, Zambia

Content: *Myriopholis longicaudum* (Peters, 1854) (Type species), *M. ionidesi* (Broadley and Wallach, 2007).

GENUS SCANLONUS GEN. NOV.

Type species: *Glauconia blanfordii* Boulenger, 1890

Diagnosis: *Scanlonus* gen. nov. is in effect the sum total of the species within the genus *Myriopholis* as defined by Adalsteinsson et. al. (2009), minus the type species *M. longicaudus* (Peters, 1854) and the closely related taxon *M. ionidesi* (Broadley and Wallach, 2007).

Therefore to define this new genus (*Scanlonus* gen. nov.) it is simplest to in effect use the existing definition of *Myriopholis* as defined by Adalsteinsson et. al. (2009) and then to refer to the characters used to exclude the two relevant species from this genus.

Thus species within *Scanlonus* gen. nov. and *Myriopholis* have 14 midbody scale rows, 10-12 midtail scale rows, 165-558 middorsal scale rows, 25-58 subcaudals, two supralabials (three in *S. dissimilis*), a small anterior supralabial (moderate in *S. narirostris*), 103-293 mm maximum adult total length, a body shape of 27-138 (total of width into length), a relative tail length of 5.7-18.9 percent, a tail shape of 5.0-11.7, no striped pattern, usually a pale brown dorsum and white venter. Members of both genera and this tribe (the total of the tribe Myriopholini) can be

distinguished from the two other tribes in the subfamily Leptotyphlopinae by the presence of a higher average number of middorsal scales (165-558 versus 171-387) and subcaudals (25-58 versus 12-44). Also, members of the tribe usually have a white venter and semilunate cloacal shield whereas members of the Tribe Leptotyphlopini usually have a brown or pale brown venter and a heart-shaped or subtriangular cloacal shield. Members of the Tribe Myriopholini also can be distinguished from the Tribe Epacrophini by the presence of a small anterior supralabial (moderate in size in Epacrophini).

The species *M. longicaudus* and the closely related taxon *M. ionidesi* (now the only members of the genus *Myriopholis*) are separated from species within the genus *Scanlonus* gen. nov. by an elongate skull with a postparietal bone separating the supraoccipitals, paired parietal bones more or less separated and sometimes

the frontals also. There is a discrete frontal shield, a small anterior supralabial, a moderate posterior supralabial, a semilunate cloacal shield, a small apical spine, and brown dorsal pigmentation, paler below.

Comment: The tribe Tribe Myriopholini Hedges, Adalsteinsson and Branch 2009 was defined as a monotypic tribe for the genus *Myriopholis*. The genus *Scanlonus* gen. nov. is obviously placed within this tribe as inferred in the diagnosis above.

Distribution: Africa, Middle-east, South-west Asia.

Etymology: Named in honour of John D. Scanlon, formerly of Northbridge, NSW, Australia in recognition of his excellent work on fossil snakes and their systematics and in recognition of his expertise with Blindsnakes spanning many decades.

Content: *Scanlonus blanfordi* (Boulenger, 1890) (Type species), *S. adleri* (Hahn and Wallach, 1998), *S. albiventer* (Hallermann and Rodel, 1995), *S. algeriensis* (Jacquet, 1895), *S. boueti* (Chabanaud, 1917), *S. braccianii* (Scortecci, 1929), *S. burii* (Boulenger, 1905), *S. cairi* (Duméril and Bibron, 1844), *S. dissimile* (Bocage, 1886), *S. erythraea* (Scortecci, 1929), *S. filiformis* (Boulenger, 1899), *S. macrorhynchum* (Jan, 1860), *S. macrura* (Boulenger, 1903), *S. narirostre* (Peters, 1867), *S. natatrix* (Andersson, 1937), *S. nursii* (Anderson, 1896), *S. perreti* (Roux-Esteve, 1979), *S. phillipsi* (Barbour, 1914), *S. rouxestevae* (Trape and Mane, 2004), *S. tanae* (Broadley and Wallach, 2007), *S. wilsoni* (Hahn, 1978), *S. yemenicus* (Scortecci, 1933).

SUBGENUS LONGINIDIS SUBGEN. NOV.

Type species: *Glauconia algeriensis* Jacquet, 1895

Diagnosis: *Longinidis* subgen. nov. is separated from other species of *Scanlonus* gen. nov. and *Myriopholis* by usually having a strongly hooked snout and relatively short tail (total length/tail ratio 10.0-14.3), with a pink colouration throughout, though slightly lighter below; the body width of more than 100 times in the total length. The skull has a large frontoparietal foramen. This diagnosis so far separates all *Scanlonus* gen. nov. from this subgenus except for the species *S. macrorhynchum* (Jan, 1860), which is separated from this subgenus by having the praeoral position concave inferiorly, a very small supraocular, the rostral extends to the level of the eye, the nasal is completely divided and the ocular borders the lip.

Longinidis subgen. nov. is monotypic for the species *Scanlonus (Longinidis) algeriensis*.

Distribution: South Tunisia, Algeria, Morocco, Western Sahara, Mauritania, North Mali, North East Niger.

Etymology: Named in honor of George Longinidis, a famous kick Boxer from Melbourne, Victoria, Australia, who happens to have a number of world titles to his name, in recognition of his efforts in personal fitness training and personal development training for numerous Australians spanning many years.

Content: *Scanlonus (Longinidis) algeriensis* (Jacquet, 1895) (Type species).

TRIBE LEPTOTYPHLOPINI HEDGES, ADALSTEINSSON AND BRANCH, 2009

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: Africa.

Content: *Karimdaouesus* gen. nov., *Leptotyphlops* Fitzinger, 1843, *Namibiana* Hedges, Adalsteinsson and Branch, 2009.

GENUS KARIMDAOUESUS GEN. NOV.

Type species: *Glauconia kafubi* Boulenger, 1919

Diagnosis: *Karimdaouesus* gen. nov. includes species formerly included in the genus *Leptotyphlops*. The diagnosis of *Leptotyphlops* as defined by Adalsteinsson et. al. (2009) would therefore constitute a part of this diagnosis and is given first, paraphrased herein.

Species of *Leptotyphlops* and *Karimdaouesus* gen. nov. have 14 midbody scale rows, 10-12 midtail scale rows, 171-322 middorsal scale rows, 18-44 subcaudals, two supralabials, a small anterior supralabial (moderate in *L. howelli*), 126-292 mm maximum adult total length, a body shape of 36-106 (total length/width), a relative tail length of 5.1-13.7%, a tail shape of 3.4-9.2, no striped pattern, and usually a dark brown or brown dorsum and venter. Members of *Leptotyphlops* can be distinguished from the other genus in the Tribe Leptotyphlopini (*Namibiana* Hedges, Adalsteinsson and Branch, 2009) by having a heart-shaped or subtriangular (rather than semilunate) cloacal shield, a lower number (on average) of middorsal scales (171-322 versus 241-387), and a less attenuate body shape (36-106 versus 45-142).

Karimdaouesus gen. nov. is separated from the genus *Leptotyphlops* by the following unique suite of characters: Rounded snout; supraocular large, nearly twice as long as broad, followed by a single large transverse shield; rostral a little broader than the nasal, not extending quite to between the eyes; nasal is completely divided; ocular bordering the lip between two labials, the anterior of which equals the lower portion of the nasal in size; six lower labials. 14 mid body rows of scales around the body. Diameter of the body is 55-77 times in the total length; length of tail is nine times. Colouration is uniform blackish, or rarely with white under the venter of the tip.

Distribution: East Angola, North Zambia, South Sudan south through West Uganda to West Tanzania, Kenya, Democratic Republic of the Congo (Zaire).

Etymology: Named in honour of Karim Daoues of Paris, France for his valuable contributions to herpetology and reptile conservation spanning some decades.

Content: *Karimdaouesus kafubi* (Boulenger, 1919) (Type species), *K. aethiopicus* (Broadley and Wallach, 2007), *K. emini* Boulenger, 1890. *K. howelli* (Broadley and Wallach, 2007), *K. keniensis* (Broadley and Wallach, 2007), *K. macrops* (Broadley and Wallach, 1996), *K. mbanjensis* (Broadley and Wallach, 2007), *K. pembae* (Loveridge, 1941).

GENUS LEPTOTYPHLOPS FITZINGER, 1843

Type species: *Typhlops nigricans* Schlegel, 1839.

Diagnosis: Species of *Leptotyphlops* have 14 midbody scale rows, 10-12 midtail scale rows, 171-322 middorsal scale rows, 18-44 subcaudals, two supralabials, a small anterior supralabial (moderate in *Karimdaouesus howelli*), 126-292 mm maximum adult total length, a body shape of 36-106 (total length/width), a relative tail length of 5.1-13.7 %, a tail shape of 3.4-9.2, no striped pattern,

and usually a dark brown or brown dorsum and venter. Members of *Leptotyphlops* can be distinguished from the other genus in the Tribe Leptotyphlopini (*Namibiana* Hedges, Adalsteinsson and Branch, 2009) by having a heart-shaped or subtriangular (rather than semilunate) cloacal shield, a lower number (on average) of middorsal scales (171-322 versus 241-387), and a less attenuate body shape (36-106 versus 45-142).

Karimdaouesus gen. nov. formally described above is separated from the genus *Leptotyphlops* by the following unique suite of characters: Rounded snout; supraocular large, nearly twice as long as broad, followed by a single large transverse shield; rostral a little broader than the nasal, not extending quite to between the eyes; nasal is completely divided; ocular bordering the lip between two labials, the anterior of which equals the lower portion of the nasal in size; six lower labials. 14 mid body rows of scales around the body. Diameter of the body is 55-77 times in the total length; length of tail is nine times. Colouration is uniform blackish, or rarely with white under the venter of the tip.

Distribution: Found generally in the region south of the Sahara and on the east side of the African Continent from Somalia in the north-east to South Africa.

Content: *Leptotyphlops nigricans* (Schlegel, 1839) (Type species), *L. aethiopicus* Broadley and Wallach, 2007, *L. conjunctus* (Jan, 1861), *L. distanti* (Boulenger, 1892), *L. emini* (Boulenger, 1890), *L. howelli* Broadley and Wallach, 2007, *L. incognitus* Broadley and Watson, 1976, *L. jacobseni* Broadley and Broadley, 1999, *L. kafubi* (Boulenger, 1919), *L. keniensis* Broadley and Wallach, 2007, *L. macrops* Broadley and Wallach, 1996, *L. merkeri* (Werner, 1909) *L. mbanjensis* Broadley and Wallach, 2007, *L. nigroterminus* Broadley and Wallach, 2007, *L. pembae* Loveridge, 1941, *L. pitmani* Broadley and Wallach, 1997, *L. pungwensis* Broadley and Wallach, 1997, *L. scutifrons* (Peters, 1854), *L. sylvicolus* Broadley and Wallach, 1997, *L. teloi* Broadley and Watson, 1976.

SUBGENUS OTTOBREUS SUBGEN. NOV.

Type species: *Leptotyphlops scutifrons merkeri* (Werner, 1909)

Diagnosis: *Ottobreus* subgen. nov. is separated from all other *Leptotyphlops* by the following suite of characters: One or other of: 1/ prefrontal fused with the rostral, forming a large shield, wedge-shaped (not unguiform) in dorsal view, which is more than a third width of head at level of posterior borders of eyes and in good contact with supraoculars; anterior supralabial present; occipitals entire. Tail usually with 10-12 rows of scales, terminating abruptly in terminal spine. Colouration uniform black above and below; or: 2/ alternatively with a rhombic postparietal bone and paired parietals and unique in its light brown colouration with the distal portion of the tail black.

Distribution: East Africa.

Etymology: *Ottobreus* subgen. nov. is named after Mark Ottobre, a magnificent personal (fitness) trainer of Melbourne, Victoria, Australia with the slogan "I don't believe in 'practice what you preach' but in 'preach what you practice'", who has improved the lives of countless people who catch his contagious enthusiasm for life.

Content: *Leptotyphlops (Ottobreus) merkeri* (Werner, 1909) (Type species), *L. (Ottobreus) nigroterminus* Broadley and Wallach, 2007, *L. (Ottobreus) pitmani* Broadley and Wallach, 2007.

SUBGENUS TEESLEPTOTYPHLOPS SUBGEN. NOV.

Type species: *Stenostoma scutifrons* Peters, 1854

Diagnosis: *Teesleptotyphlops* subgen. nov. is separated from all other Leptotyphlopids by the following suite of characters: prefrontal fused with the rostral, forming a large shield nearly half to two thirds the width of the head at the level of the posterior borders of the eyes, unguiform (not wedge-shaped) in dorsal view, and in good contact with supraoculars; anterior supralabial present; occipitals entire or divided. Tail usually with 10-12 rows of scales, terminating abruptly in terminal spine. Colouration uniform black above and below.

Comment: The taxon *Leptotyphlops conjunctus* (Jan, 1861) as currently known is a composite of several species, with some falling within the subgenus *Teesleptotyphlops* subgen. nov. and others falling within the subgenus *Leptotyphlops* Fitzinger, 1843, (refer to Adalsteinsson et. al. 2009).

Distribution: Southern and central Africa.

Etymology: Named in honour of solicitor Alex Tees, of Bondi, Sydney, NSW, Australia for his pivotal role in ensuring that attempts to ban the book *Smuggled-2: Wildlife Trafficking, Crime and Corruption in Australia* (Hoser, 1996) failed in 1996.

There were three attempts to have the book banned through the NSW Supreme Court by people working on behalf of corrupt officials within the NSW National Parks and Wildlife Service (NPWS).

The first instance was a writ served on me in Melbourne to appear in court 48 hours later in Sydney, NSW in the Supreme Court to face an attempted injunction to have all copies of the book seized, shredded and obliterated.

Within that short span of time, Tees organized a legal team including himself and two others in NSW to fight and beat this most overt case of attempted truth censorship.

The sequence of events caused by the book going on sale in NSW led to then Environment Minister, Pam Allen reversing a two-decade old ban on private ownership of reptiles in NSW, in early 1997, just after the final attempt to ban the book failed (on 24 December 1996).

As a result, herpetology in NSW and the rest of Australia has boomed as a hobby and science and more people than ever are now taking an interest in reptiles and their conservation in NSW and the rest of Australia.

It is hoped that people recognize that without the efforts of Alex Tees and fellow lawyers, Clive Evatt (barrister) and Michael Rollinson (solicitor), all three of whom took on the case without fee and in the purely public interest, it is certain that private ownership of reptiles would still be illegal in NSW as of 2012!

If other legally trained people do not step into the same shoes as Tees, Evatt and Rollinson, then it is almost a certainty that private ownership of reptiles will end up being legally prohibited in many parts of the world in the not too distant future, including places like South Africa,

most of Europe, most of the United States of America and other legal domains.

Content: *Leptotyphlops (Teesleptotyphlops) scutifrons* (Peters, 1854) (Type species), *L. (Teesleptotyphlops) conjunctus* (Jan, 1861) (see comment above), *L. (Teesleptotyphlops) distantii* (Boulenger, 1892), *L. (Teesleptotyphlops) pungwensis* (Broadley and Wallach, 1997), *L. (Teesleptotyphlops) telloi* (Broadley and Watson, 1976).

SUBGENUS LEPTOTYPHLOPS FITZINGER, 1843

Type species: *Typhlops nigricans* Schlegel, 1839.

Diagnosis: The diagnosis for this newly defined subgenus, retaining the suffix "Fitzinger, 1843", is essentially as for the genus and with the exclusion of the two defined subgenera above, as well as the excusion of *Karimdaouesus* gen. nov., which included species formerly placed within *Leptotyphlops*.

Hence the subgenus *Leptotyphlops* is herein defined as follows, and by way of exclusion of the genus and two genera also defined herein below:

Leptotyphlops are defined as members of Leptotyphlopinae that usually have long, thin tails, with high subcaudal counts: relative tail length is 4.1-18.9% total length versus 2.1-11.5% in the Epictinae, tail shape is 3.2-11.7 versus 1.3-6.1, and subcaudals number 12-58 versus 6-30 in the Epictinae. All Leptotyphlopids possessing more than two supralabials, more than 14 midbody scale rows, stripes, and bold colors (e.g., reds and yellows) are in the Epictinae rather than this subfamily.

Excluded from this subgenus are the following three identified groups:

Karimdaouesus gen. nov. is separated from the genus *Leptotyphlops* by the following unique suite of characters: Rounded snout; supraocular large, nearly twice as long as broad, followed by a single large transverse shield; rostral a little broader than the nasal, not extending quite to between the eyes; nasal is completely divided; ocular bordering the lip between two labials, the anterior of which equals the lower portion of the nasal in size; six lower labials. 14 mid body rows of scales around the body. Diameter of the body is 55 times in the total length; length of tail is nine times. Colouration is uniform blackish.

Ottobreus subgen. nov. is separated from all other *Leptotyphlops* by the following suite of characters: One or other of: 1/ prefrontal fused with the rostral, forming a large shield, wedge-shaped (not unguiform) in dorsal view, which is more than a third width of head at level of posterior borders of eyes and in good contact with supraoculars; anterior supralabial present; occipitals entire. Tail usually with 10-12 rows of scales, terminating abruptly in terminal spine. Colouration uniform black above and below; or: 2/ alternatively with a rhombic postparietal bone and paired parietals and unique in its light brown colouration with the distal portion of the tail black.

Teesleptotyphlops subgen. nov. is separated from all other Leptotyphlopids by the following suite of characters: prefrontal fused with the rostral, forming a large shield nearly half to two thirds the width of the head at the level

of the posterior borders of the eyes, unguiform (not wedge-shaped) in dorsal view, and in good contact with supraoculars; anterior supralabial present; occipitals entire or divided. Tail usually with 10-12 rows of scales, terminating abruptly in terminal spine. Colouration uniform black above and below.

Comments: The taxon *Leptotyphlops conjunctus* (Jan, 1861) as currently known is a composite of several species, with some falling within the subgenus *Teesleptotyphlops* subgen. nov. and others falling within the subgenus *Leptotyphlops* Fitzinger, 1843, (refer to Adalsteinsson et. al. 2009). The placement of the species taxon *incognitus* within this subgenus is tentative.

Distribution: Found generally in southern Africa, and mainly in the east side of the continent as opposed to the more arid west.

Content: *Leptotyphlops (Leptotyphlops) nigricans* (Schlegel, 1839)(Type species), *L. (Leptotyphlops) conjunctus* (Jan, 1861) (see above), *L. (Leptotyphlops) incognitus* (Broadley and Watson, 1976), *L. (Leptotyphlops) jacobsoni* (Broadley and Broadley, 1999), *L. (Leptotyphlops) sylvicolus* Broadley and Wallach, 1997.

GENUS NAMIBIANA HEDGES, ADALSTEINSSON AND BRANCH, 2009

Type species: *Leptotyphlops occidentalis* FitzSimons, 1962.

Diagnosis: See Adalsteinsson et. al. (2009).

Distribution: The genus *Namibiana* is distributed in Southwest Africa, including South Africa, Namibia, and Angola.

Content: *Namibiana occidentalis* (Fitzsimons, 1962) (Type species), *N. gracilior* (Boulenger, 1910), *N. labialis* (Sternfeld, 1908), *N. latifrons* (Sternfeld, 1908), *N. rostrata* (Bocage, 1886).

FAMILY ANOMALEPIDAE TAYLOR, 1937

Diagnosis: See above.

TRIBE ANOMALEPIINI TRIBE NOV.

(Terminal taxon: *Anomalepis mexicanus* Jan, 1860)

Diagnosis: Anomalepiini tribe nov. is monotypic for the genus *Anomalepis* Jan, 1860; the diagnosis for both is the same.

While most members of the family Anomalepidae have a distinctive pattern in which the body is uniformly dark in colour (black or dark brown), but the head and often at least parts of the tail are light in colour (white, yellow or pink), the four species within this tribe (Genus *Anomalepis* Jan, 1860), stands as exceptions to this generalization in that they are uniformly brown or reddish brown in colour, being somewhat lighter inferiorly and usually the scales having a yellowish-white border.

The tribe Anomalepiini tribe nov. (and genus *Anomalepis*) are further diagnosed and separated from all other Anomalepidae by the following unique characters: The snout is rounded; moderately prominent; rostral smallish; a pair of large praefrontals and a frontal of subequal size, the former forming a median suture, nasal is large and lateral, semidivided and bordering the lip; supraoculars are well-developed; and eye is distinguishable under the ocular; two superposed praecoculars, the lower in contact

with the two labials; two small suboculars; 22 scale rows around the body. Preanal scales are enlarged. Diameter of the body is 32 times in the total length; tail is broader than long and does not end in a spine, being rounded at the end.

Distribution: Central America south of Mexico and into nearby north-west South America.

Content: *Anomalepis* Jan, 1860.

GENUS ANOMALEPIS JAN, 1860

Type species: *Anomalepis mexicanus* Jan, 1860

Diagnosis: The diagnosis for the genus is the same as for the tribe Anomalepiini tribe nov.

While most members of the family Anomalepidae have a distinctive pattern in which the body is uniformly dark in colour (black or dark brown), but the head and often at least parts of the tail are light in colour (white, yellow or pink), the four species within this genus (*Anomalepis*) stand as exceptions to this generalization in that they are uniformly brown or reddish brown in colour, being somewhat lighter inferiorly and usually the scales having a yellowish-white border.

Anomalepis are further diagnosed and separated from all other Anomalepidae by the following unique characters: The snout is rounded; moderately prominent; rostral smallish; a pair of large praefrontals and a frontal of subequal size, the former forming a median suture, nasal is large and lateral, semidivided and bordering the lip; supraoculars are well-developed; and eye is distinguishable under the ocular; two superposed praecoculars, the lower in contact with the two labials; two small suboculars; 22 scale rows around the body. Preanal scales are enlarged. Diameter of the body is 32 times in the total length; tail is broader than long and does not end in a spine, being rounded at the end.

Distribution: Central America south of Mexico and into nearby north-west South America.

Content: *Anomalepis mexicanus* Jan, 1860 (Type species), *A. aspinosus* Taylor, 1939, *A. colombia* Marx, 1953, *A. flavapices* Peters, 1957.

SUBGENUS MACPHIEUS SUBGEN. NOV.

Type species: *Anomalepis aspinosus* Taylor, 1939

Diagnosis: The subgenus *Macphieus* gen. nov. are separated from the nominate subgenus *Anomalepis* by higher numbers of dorsal scales and scale rows. In the case of this subgenus this is 308-363 dorsals, and a scale-row formula of (26-27-28-30)-(24-26-30)-(24-27). *Anomalepis mexicanus* (the only species within the nominate subgenus) is characterized by fewer numbers of dorsal scales and scale rows: 259-299 dorsals, and a scale-row formula of (24-25-26)-(20-22-23-24)-(20-21-22).

Distribution: The three species in this subgenus are distributed as follows: *A. (Macphieus) colombia* in Colombia, *A. (Macphieus) flavapices* in Ecuador and *A. (Macphieus) aspinosus* in Peru.

Etymology: Named in honour of Haydn McPhie of Mirboo North, Victoria, for numerous contributions to herpetology and wildlife education in Australia spanning three decades and also in recognition of his services to Australia's dairy farming industry.

Content: *Anomalepis (Macphieus) aspinosus* Taylor, 1939 (Type species), *A. (Macphieus) colombia* Marx, 1953, *A. (Macphieus) flavapices* Peters, 1957.

TRIBE HELMINTHOPHIINI TRIBE NOV.

(Terminal taxon: *Typhlops (Helminthophis) frontalis* Peters, 1860)

Diagnosis: The two genera within this tribe are separated from the other two genera within the Anomalepidae by the following suite of characters: a pair of large preaefrontals and a frontal and the nostril between two nasals and the head is not covered with uniform small scales.

Alternatively this tribe may be diagnosed by the elimination of each of the other tribes.

The tribe Anomalepiini tribe nov. (and genus *Anomalepis*) are separated from all other Anomalepidae by the following unique characters: The snout is rounded; moderately prominent; rostral smallish; a pair of large praefrontals and a frontal of subequal size, the former forming a median suture, nasal is large and lateral, semidivided and bordering the lip; supraoculars are well-developed; and eye is distinguishable under the ocular; two superposed praeoculars, the lower in contact with the two labials; two small suboculars; 22 scale rows around the body. Preanal scales are enlarged. Diameter of the body is 32 times in the total length; tail is broader than long and does not end in a spine, being rounded at the end.

Typhlophisini tribe nov. is separated from all other Anomalepidae by the following unique suite of characters: Head is covered with uniform small scales; snout is rounded, feebly projecting; nostril is between two very small nasals; rostral is very small, not extending to the upper surface of the snout. The eyes are distinguishable. Diameter of the body is about 40 times into the total length. Tail is as long as it is broad and ends in a spine. There are 24 rows of scales around the middle of the body. Dorsally brown or black in colour and both snout and end of tail are yellowish.

Distribution: Costa Rica in Central America, southward into South America and including, Venezuela, Colombia and Ecuador as well as southern Brazil, south-eastern Paraguay and north-eastern Argentina.

Content: *Helminthophis* Peters, 1860, *Liotyphlops* Peters, 1881.

GENUS HELMINTHOPHIS PETERS, 1860

Type species: *Typhlops (Helminthophis) frontalis* Peters, 1860

Diagnosis: The genus *Helminthophis* is separated from all other Anomalepidae and the other genus within this tribe (*Liotyphlops* Peters, 1881) by the following suite of characters: A pair of large praefrontals and a frontal; nostril between two nasals; the rostral is not half the width of the head, not extending to the level of the eyes, separated from the frontal by the praefrontals; which form a suture with each other; frontal broad; either a single praeocular and two suboculars or two superposed praeoculars and a subocular; eye is distinguishable under the ocular which may be small; four upper labials, first is largest and usually the third is in contact with the

ocular; 22-24 rows of scales around the mid-body; tail is just over a little longer than broad to one a half times as long as it is broad; diameter of the body is 50-60 times into the length of the body. The colour is generally dark brown, sometimes with each scale being darker in the centre, with the head and tail either whitish, creamish or yellowish.

Distribution: Costa Rica, southward through Colombia and Venezuela.

Content: *Helminthophis frontalis* Peters, 1860, *H. flavoterminalis* (Peters, 1857), *H. praeocularis* Amaral, 1924.

GENUS LIOTYPHLOPS PETERS, 1881.

Type species: *Rhinotyphlops albirostris* Peters, 1857

Diagnosis: The genus *Liotyphlops* is separated from the other genus in the tribe (*Helminthophis*) by the following unique suite of characters: Rostral is very large, half the width of the head and extending beyond the level of the eyes (not extending beyond the level of the eyes in *Helminthophis*), and the rostral is in contact with the frontal which is broad; no praeocular; two suboculars; eye is distinguishable under the suture between the praeofrontal and the ocular; four upper labials, the first is largest; second in contact with the praeofrontal. Usually 22 rows of scales around the middle of the body. The general colouration is dark or black, usually with a reddish-brown border. The head is whitish.

Snakes in the nominate subgenus *Liotyphlops* are separated from the other two newly named subgenera within *Liotyphlops* (formally named and described below) by having one scale contacting the posterior edge of the nasal between the second supralabial and the prefrontal scale.

Snakes in the subgenus *Kraussus* subgen. nov. are separated from the other two subgenera within *Liotyphlops* by the presence of four (sometimes three) scales bordering the posterior edge of the prefrontal scale.

Snakes in the subgenus *Hawkeswoodus* subgen. nov. are separated from the other two subgenera within *Liotyphlops* by the presence of two scales contacting the posterior edge of the nasal between the second supralabial and prefrontal.

Distribution: Costa Rica in Central America, southward into South America and including, Venezuela, Colombia and Ecuador as well as southern Brazil, south-eastern Paraguay and north-eastern Argentina.

Content: *Liotyphlops albirostris* (Peters, 1857) (Type species), *L. anops* (Cope, 1899), *L. argaleus* Dixon and Kofron, 1984, *L. beui* (Amaral, 1924), *L. caissara* Centeno, Sawaya and Germano, 2010, *L. haadi* Silva-haad, Franco and Maldonado, 2008, *L. schubarti* Vanzolini, 1948

L. ternetzii (Boulenger, 1896), *L. trefauti* Freire, Caramaschi, Suzart Argolo, 2007, *L. wilderi* (Garman, 1883).

SUBGENUS KRAUSSUS SUBGEN. NOV.

Type species: *Helminthophis anops* Cope, 1899

Diagnosis: Snakes in the subgenus *Kraussus* subgen. nov. are separated from the other two subgenera within

Liotyphlops by the presence of four (sometimes three) scales bordering the posterior edge of the prefrontal scale.

Snakes in the subgenus *Hawkeswoodus* subgen. nov. are separated from the other two subgenera within *Liotyphlops* by the presence of two scales contacting the posterior edge of the nasal between the second supralabial and prefrontal.

Snakes in the nominate subgenus *Liotyphlops* are separated from the other two newly named subgenera within *Liotyphlops* by having one scale contacting the posterior edge of the nasal between the second supralabial and the prefrontal scale.

Distribution: Colombia, North-east Brazil.

Etymology: Named in honour of North Queensland, Australia, herpetologist and snake breeder, Peter Krauss in recognition of his leading role in the field of herpetology spanning many decades, perhaps most notably him being the first person in the world to breed the Oenpelli Python (*Nyctophilopython oenpelliensis*) from Arnhem Land, Northern Territory, Australia.

That Krauss was the first to breed these snakes is not a big deal as they are pythons and no python on this planet is particularly hard to keep in captivity and breed.

I say this not to put Krauss down as he is a very competent herpetologist and snake breeder and besides that, he is a really nice and likeable human being, but merely to keep the particular event of breeding Oenpelli Pythons in perspective as being notable as being the first case in history, rather than anything more.

Of relevance however is that in a sequence of events that could only happen in Australia, a plot was hatched by corrupt government-owned zoo officials and wildlife department officers in the late 1980's to steal Krauss's breeding colony of these snakes to use for themselves.

So Krauss was given the Australian standard treatment of a heavily armed raid on his home, the snakes stolen by wildlife officers and police and he was given no compensation for either the legally held snakes being taken or the total trashing and destruction of his world-leading reptile breeding facility.

As is standard in Australia, the dysfunctional government owned zoo and the incompetent reptile keepers there managed to kill all the adult snakes and their offspring.

As a result the species became extinct in captivity and remained so for about 20 years.

Now in 2012, a private but Northern Territory (Australia) Government-backed zoo (Crococaurus Cove) and the owner of the reptile facility in the form of Gavin Bedford has finally recently (within the last 3 years) been given permission by the very nepotistic NT Wildlife Department to go into the bush and catch some more Oenpelli Pythons to breed and display at his "Crococaurus Cove" exhibit in Darwin.

Bedford caught his first smallish female specimen on 25 March 2012 in western Arnhem Land and was still searching for more, with pre-orders for more than ten hatchlings at \$15,000 a snake.

This meant that the nepotism of the NT Government in giving him the exclusive right (denied to all other

applicant herpetologists) to catch and breed Oenpelli Pythons is in effect a government issued licence to print money (Aikman, 2012)!

This story encapsulates Australia's conservation and wildlife laws enforcement landscape.

Laws are dictated on the basis of whom you know and no more and also on the basis of the best way that given bureaucrats and their mates can line their pockets, often at other people's expense.

None of this is based on common sense or the benefit to given animals in terms of management, welfare or conservation.

None of this is to be taken as saying Gavin Bedford is not a suitable person to breed these snakes, as he most certainly is. But he is far from being the only person in Australia with such an ability and so it needs to be asked, why is everyone else wanting to catch and breed these snakes being denied this right?

This is especially noting that at best the number of people who would actually go out to Arnhem Land and be able to find and collect specimens would be small (probably less than 20) and the impact on the wild populations of the collecting would be effectively nil!

As to why the number would be so few is that these snakes are "Pythons" and breed like the rest of them, meaning that once a smallish number started to breed the market would soon be flooded and it'd be way cheaper to buy hatchlings than to go out looking for them, when even the cost of petrol to get to their wild location would exceed the costs of purchasing a parasite-free captive snake, within a few short years of captive breeding.

By way of example, in another act of bureaucratic nepotism, John Weigel received exclusive rights to catch, breed and sell the then newly described rough-scaled python (*Jackypython carinata*) in the 1990's offering for sale offspring pairs at \$24,000, making himself many hundreds of thousands of dollars overnight.

By 2010, and less than ten years after Weigel offered the first hatchlings for sale, these snakes were being sold as hatchlings for \$300 each by numerous people who'd purchased the first offspring from Weigel, so pretty much anyone who wanted one could buy one.

The whole sequence of events in terms of Krauss and the Oenpelli Pythons encapsulates why Australia consistently has the worst wildlife conservation record in the world in terms of large-sized countries and extinctions of vertebrate fauna.

Content: *Liotyphlops (Kraussus) anops* (Cope, 1899) (Type species), *L. (Kraussus) argaleus* Dixon and Kofron, 1984, *L. (Kraussus) haadi* Silva-haad, Franco and Maldonado, 2008, *L. (Kraussus) trefauti* Freire, Caramaschi, Suzart Argolo, 2007.

SUBGENUS HAWKESWOODUS SUBGEN. NOV.

Type species: *Helminthophis ternetzii* Boulenger, 1896

Diagnosis: Snakes in the subgenus *Hawkeswoodus* subgen. nov. are separated from the other two subgenera within *Liotyphlops* by the presence of two scales contacting the posterior edge of the nasal between the second supralabial and prefrontal.

Snakes in the subgenus *Kraussus* subgen. nov. are separated from the other two subgenera within *Liotyphlops* by the presence of four (sometimes three) scales bordering the posterior edge of the prefrontal scale.

Snakes in the nominate subgenus *Liotyphlops* are separated from the other two newly named subgenera within *Liotyphlops* by having one scale contacting the posterior edge of the nasal between the second supralabial and the prefrontal scale.

Distribution: Brazil, north Argentina, possibly Paraguay, Uruguay, Suriname.

Etymology: Named in honour of Dr. Trevor J. Hawkeswood, biologist and author in recognition of his many valuable scientific papers, books and other publications on Australian, New Guinean and other non-Australasian plants and animals. Hawkeswood has published work in the following fields: mycology, botany, arachnology, entomology, herpetology, ornithology and mammalogy.

Content: *Liotyphlops (Hawkeswoodus) ternetzii* (Boulenger, 1896) (Type species), *L. (Hawkeswoodus) beui* (Amaral, 1924), *L. (Hawkeswoodus) schubarti* Vanzolini, 1948.

SUBGENUS LIOTYPHLOPS PETERS, 1881.

Type species: *Rhinotyphlops albirostris* Peters, 1857.

Diagnosis: Snakes in the nominate subgenus *Liotyphlops* are separated from the other two newly named subgenera within *Liotyphlops* (formally named and described within this paper) by having one scale contacting the posterior edge of the nasal between the second supralabial and the prefrontal scale.

Snakes in the subgenus *Kraussus* subgen. nov. are separated from the other two subgenera within *Liotyphlops* by the presence of four (sometimes three) scales bordering the posterior edge of the prefrontal scale.

Snakes in the subgenus *Hawkeswoodus* subgen. nov. are separated from the other two subgenera within *Liotyphlops* by the presence of two scales contacting the posterior edge of the nasal between the second supralabial and prefrontal.

Distribution: Costa Rica in Central America, southward into South America and including, Venezuela, Colombia and Ecuador as well as southern Brazil, south-eastern Paraguay and north-eastern Argentina.

Content: *Liotyphlops (Liotyphlops) albirostris* (Peters, 1857) (Type species), *L. (Liotyphlops) caissara* Centeno, Sawaya and Germano, 2010, *L. (Liotyphlops) wilderi* (Garman, 1883).

TRIBE TYPHLOPHISINI TRIBE NOV.

(Terminal taxon: *Typhlops squamosus* Schlegel, 1839)

Diagnosis: This tribe is monotypic for the genus *Typhlophis* Fitzinger, 1843 and so the diagnosis for both is one and the same.

Typhlophisini tribe nov. is separated from all other Anomalepidae by the following unique suite of characters: Head is covered with uniform small scales; snout is rounded, feebly projecting; nostril is between two

very small nasals; rostral is very small, not extending to the upper surface of the snout. The eyes are distinguishable. Diameter of the body is about 40 times into the total length. Tail is as long as it is broad and ends in a spine. There are 24 rows of scales around the middle of the body. Dorsally brown or black in colour and both snout and end of tail are yellowish.

The genus *Typhlophis* Fitzinger, 1843 is monotypic for the species *Typhlophis squamosus* (Schlegel 1839) and so this diagnosis applies to the species as well.

Distribution: North coast of South America, from central Venezuela, through French Guiana to north-east Brazil.

Content: *Typhlophis* Fitzinger, 1843.

GENUS TYPHLOPHIS FITZINGER, 1843

Type species: *Typhlops squamosus* Schlegel, 1839

Diagnosis: See Above.

Distribution: See above.

Content: *Typhlops squamosus* Schlegel, 1839 (Type species).

FIRST REVISOR NOTE

In the event that a subsequent worker seeks to merge any genera or subgenera as named herein for the first time, the order of priority of names should be as follows. Higher classification designations over-ride lower ones. Within a given classification level, the order of priority should be by page priority or position priority in this paper. That is the first used name as in the first formally described should be the one used. This order is also the same in the keywords as listed at the start of this paper.

END NOTE

There will be inevitable criticisms of this paper (and all my others) from a band of regular critics of my work, including most notably, Mark O'Shea and Wolfgang Wüster.

Their various criticisms, complaints and unethical conduct by these men and associates to year 2012 is documented by Hoser (2012), published on 3 April 2012. Since that paper was published, these men have trolled the internet removing all references to that paper as best they can, in order to hide exposure of their reckless and dishonest methods.

They have so far failed to have the journal removed from a website I control, where it has been posted since about 4 May 2012, There is no doubt whatsoever that this Blindsnake paper and the taxonomic conclusions within it will be painted by these men as reckless, "evidence free" and that the names used within should not be used.

In reality nothing could be further from the truth.

By quick reference to just two of the many sources referred to herein, it can be seen that what is done herein is extremely conservative based on all the evidence and the conclusions are not only sensible, but in effect inevitable in terms of reptile taxonomy and nomenclature.

In the first instance, Adalsteinsson, S. A., Branch, W. R., Trape, S., Vitt, L. J. and Hedges, S. B. (2009), did a major review of the Leptotyphlopidae, erecting and resurrecting numerous tribes, subtribes and genera (including a total of 13 newly named ones) to bring the

classification of these snakes into line with other reptile groups.

In their abstract they wrote:

"A revised classification recognizes two subfamilies, Epictinae subfam. nov. (New World and Africa) and Leptotyphlopinae (Africa, Arabia, and Southwest Asia). Within the Epictinae we recognize two tribes (Epictini trib. nov. and Rhinoleptini trib. nov.), three subtribes (Epictina subtrib. nov., Tetracheilostomina subtrib. nov., and Renina subtrib. nov.), and eight genera (*Epictia*, *Guinea gen. nov.*, *Mitophis gen. nov.*, *Rena*, *Rhinoleptus*, *Siagonodon*, *Tetracheilostoma*, and *Tricheilostoma*). Three tribes are recognized within the Leptotyphlopinae (Epacrophini trib. nov., Myriopholini trib. nov., and Leptotyphlopini trib. nov.) and four genera (*Epacrophis gen. nov.*, *Myriopholis gen. nov.*, *Leptotyphlops*, and *Namibiana gen. nov.*)."

Contrary to the sort of claims advanced by Mark O'Shea, Wolfgang Wüster and associates, these actions were anything but "evidence free". They produced phylogenies based on molecular studies to support their actions.

A second paper produced by Vidal et. al. produced a similar phylogeny for the entire Scolecophidia, confirming the results of Adalsteinsson et. al. (2009).

A perusal of their phylogeny shows that the taxonomic conclusions within this paper in effect mirror those of Adalsteinsson et. al. (2009), but in this case also for the groups of Blindsnakes the first authors missed, which in effect mainly means the Typhlopoidea.

I also note herein that if Adalsteinsson et. al. (2009) had not named the various groups their phylogenies revealed, I would have used that very same evidence as a starting point for doing much the same thing!

In terms of the conservatism of the approach herein, you will see that I have chosen not to divide some groups that show common ancestry of 20 or more million years in age, with most divisions made being of groups divided more than 25 million or more years and some in the range of 100 million years in age, meaning that division at the genus level is in effect mandatory!

Noting that I have made comments about the unethical conduct of Mark O'Shea and Wolfgang Wüster in other papers elsewhere, I would in the normal course of events not have mentioned them herein, save for the fact that I received a relevant e-mail on 20 June this year.

This e-mail was received by myself via Dr Harold Cogger, of Woy Woy, New South Wales, Australia, who himself had been sent it on 5 June 2012 from a little-known academic named Hinrich Kaiser of e-mail address chalcopis@yahoo.com.

That e-mail contained an effective petition by an allegedly anonymous author or authors attacking the allegedly "evidence free" papers published by myself in all my publications in the period 2000-2012, including *Australasian Journal of Herpetology* issues 1-12. The poorly written and highly defamatory rant went on to seek support for a formal ban on the use of all names proposed by myself and others (e.g. Richard Wells and Bill McCord) since 2000, as well as at least one name proposed by Laurenti in 1768 and including well over 200

"in use" names in total.

This includes well-accepted names in common usage such as *Broghammerus* Hoser 2004, *Leiopython hoserae* Hoser 2000 and *Morelia harrisoni* Hoser 2000, the latter of which has according to Google on 22 June 2012, been used at least 814,000 times on the web alone!

That result would of course be relevant to the ICZN common-usage arguments.

However it is clear the authors of the petition are seeking a long-term aim to subvert all "hoser names" and others by planning to use lack of common usage as an argument against them at a later stage, including perhaps via a petition to the ICZN, which is outlined in their "call to action".

The petition according to Hinrich Kaiser was "put together by an international group of seven respected herpetological taxonomists", but whom these persons were he has steadfastly refused to identify, and this is in spite of several requests.

As recently as 24 June 2012, in reply e-mails to Bill McCord, Kaiser refused to identify the authors of the scandalous document.

However a brief forensic analysis of the electronic trail, including Hinrich Kaiser's own facebook page showed the source of the drafting of the (at this stage ostensibly anonymous) petition to include Mark O'Shea and Wolfgang Wüster, both of whom were also listed among Hinrich Kaiser's very small number of facebook "friends".

In the case of O'Shea, a similar "complaint" was posted by him on the facebook page at:

<http://www.facebook.com/#!/pages/Daily-Reptile-News/123173187727554> on 17 May 2012, still online as of 25 June 2012, indicating his authorship involvement of the document posted widely by Kaiser.

Reversing earlier false complaints of Wüster, including of course Wallach, Wüster and Broadley (2009), this petition complained that all my papers complied with the Zoological Code (Ride et. al. 2009) which they had this time claimed was itself now the problem.

They then complained I had named too many taxa and that they wanted a formal legally binding ban on the use of any names I had proposed since 2000 so that they could then rename the same organisms as they saw fit and after their own friends and the like.

Such overt scientific censorship would be against the rules of the ICZN, which Wüster in particular has held in contempt for many years.

However it is appropriate that in the light of this recent action to attack my papers and those of other reputable herpetologists that I should make these actions known.

In terms of this most recent attack, the 22 page, 6,398 word attack (or the second document, a lengthy appendix of over 200 taxa that they seek to rename as they see fit) does not mention in any way the fraudulent actions of the same authors or associates (Wallach, Wüster and Broadley; David John Williams, Bryan Fry, Wulf Schleich) to date as detailed in Hoser (2012).

The complaints against my papers are generally false and baseless and are perhaps encapsulated in the heading of the attack, which reads:

"Taxonomic Decisions in Herpetology are Acceptable Only When Produced Ethically and Supported by a Body of Evidence Accumulated via the Scientific Method."

The inference of the heading and the rest of the rant, are that my own papers are "lacking evidence" or somehow lack ethics.

The claim is false, but if it were true, wouldn't be worthy of comment on their own because it would simply mean that the taxonomic conclusions within the papers would in effect be ignored by others and no one else would attempt to split the reptile groups in the way I have.

Of course the reality is quite different. Virtually all the taxonomic and nomenclatural actions in my papers have been made on the basis of robust and tested phylogenies published by eminent herpetologists such as Sam McDowell, Alexander Pyron and others, as well as further phylogenies produced post publication of my papers, including those of Rawlings, Rabosky, Donnellan, and Hutchinson, (2008) which confirmed my generic naming and placements of four years prior (Hoser, 2004).

In the case of the latter authors and others since, none of them would have used the name *Broghammerus* Hoser, 2004 had there been no evidence to support the idea.

Science is obviously evidence-based and so it should be and it is only on that basis that all my descriptions have been published.

Then of course, four independent peer reviewers of every paper seen in *Australasian Journal of Herpetology* also agreed that the taxonomic conclusions within them stood up to the most robust of scrutiny.

The number (4) is notable in itself as this is double the number of reviewers in most other "peer reviewed" journals.

By obvious extrapolation and noting that this paper is the last of the global audit of snakes conducted to see if any obvious new genera needed to be erected to accommodate divergent species, it can be reasonably concluded that a lack of evidence in terms of the other groups not broken up by myself was why they were not broken up.

If and when evidence emerges in terms of the groups I have not divided, they may also be broken up, but I would assume until then, their taxonomy and nomenclature will remain stable.

Facing up to this reality, the authors Mark O'Shea and Wolfgang Wüster and the (alleged) others, have sought to have a ruling made by a band of rogue herpetologists formally stopping anyone from using the "Hoser" names and thereby allowing them the right to rename them all.

They seek to do this in much the same manner that they have attempted with the Cobra genus *Spracklandus* Hoser, 2009.

However this time they go further in effectively demanding criminal sanctions against myself and the other authors they attack as well as a formal overriding of the Zoological Code (page 9 of their original MS Word document, last five lines).

The actions by these men is scandalous in the extreme and they should be publicly exposed for them.

By way of example, could anyone seriously consider

some sort of attempt to suppress all Boulenger's 500+ species descriptions just so that some disgruntled person who "missed out" could place their names on the same taxa?

More significantly and in a clear revelation of the contempt for the Zoological Code by Mark O'Shea and Wolfgang Wüster and the others associated with this "petition" the false accusations within this article include fabrication of evidence, fraud and more and go further than just these sorts of false claims on myself.

In the list of taxa they seek to rename, Mark O'Shea and Wolfgang Wüster and the (alleged) others have added the works of three other herpetologists and their work, most notably, Richard Wells and Bill McCord. Again a scandalous attempt is made to steal "naming rights" over well established taxa with names now commonly in usage.

In the case of Bill McCord, a respected veterinary surgeon based in New York, these authors have now made the false claim to a global audience that he is a high-level international wildlife trafficker putting the world's biodiversity at risk, as well as the general ambit claims of fraud, fabrication and evidence free descriptions.

While Bill McCord has denied the smuggling allegations and I accept this denial in the absence of evidence to the contrary by the "evidence free" rant, I can with greater authority refer to his allegedly "evidence free" papers that Kaiser's anonymous authors seek to suppress.

One of these McCord et. al. (2007), is republished on the internet at: http://www.iucn-iftsg.org/wp-content/uploads/file/Articles/McCord_etal_2007a.pdf and by any objective analysis has plenty of evidence to support the taxonomic position arrived at by the authors.

In this case it was a description of a new "Snakeneck Turtle" from Timor.

Furthermore, Gerald Kuchling and three other "experts" on the same subject published another paper effectively confirming McCord's taxonomic findings the same year (Kuchling, et. al. 2007).

Even if a reader fails to agree with the author's taxonomic position, such disagreement hardly requires formal banning of the work and threatening criminal sanctions against either the author or anyone else who chooses to use his names.

I should also add, that there is no question whatsoever that the original publication complies with the Zoological Code (Ride et. al. 1999), although Wallach, Wüster (in particular) and Broadley may again try to make the totally false claim the hard copy doesn't exist and that as an "online publication" it isn't validly published as they did with all publications in *Australasian Journal of Herpetology* Issues 1-7; see Wüster and Bernils (2011) for one of countless such examples.

The call to action in this recent petition seeks additions of taxa to be renamed by this band of misfits and based on its original and unedited contents includes the Laurenti named genus *Caudisona* (see page 8, paragraph "1"), thereby in effect putting the many hundreds of already recognized reptile taxa names at risk of being re-named by these misfits, which would effectively trash a sizeable

portion of the global herpetological nomenclature!

In his covering e-mail dated 5 June 2012 for what was in effect a globally disseminated call to arms against the established rules of zoological nomenclature, Hinrich Kaiser wrote:

“send us your comments, and let us know whether we may include your name as a supporter (in Appendix 2) or even as a co-author”,

stating he would be sending the article to *Herpetological Review* for publication.

However an email sent to myself on 20 June 2012 and another to Richard Wells the following day by the editor of *Herpetological Review* stated that this article would not be published by them (Hansen 2012a, 2012b).

The so-called petition by Mark O'Shea and Wolfgang Wüster and their band of misfits is in effect a piece of online hate and in itself a direct violation of the Zoological Code Code of Ethics (Appendix A, Section 5), but noting that these men have effectively now waged a war on this code and all the stability and common-sense it stands for, their actions are not surprising.

Even more disturbing is that the document sent by Hinrich Kaiser of e-mail address chalcopis@yahoo.com is a draft copy I was not supposed to see.

Noting that I am the prime subject of the raft of false claims being made, one would have thought that as matter of scientific rigor and procedural fairness, I'd have been the first to be contacted in terms of the claims.

The failure of Hinrich Kaiser and his band of misfits to follow this most basic of procedure reflects adversely on any scientific or moral credibility they may have previously had.

Hinrich Kaiser's own lack of ethics is further shown in the sequence of events following my own obtaining of this hateful rant.

Both myself and Richard Wells e-mailed Kaiser on 20 June, as did McCord. Kaiser chose to reply to McCord but not answering the questions McCord had put.

He chose not to respond to the e-mails from myself or Wells.

I merely asked Kaiser for an original of the documents, as well as for the names of the seven alleged herpetologists. That was the totality of my request.

Wells asked similar questions.

That Kaiser is willing to circulate such unmitigated rubbish in such a clandestine way and by deliberate avoidance of basic fact checking and the like, shows his own complete contempt for the scientific method of establishing truth.

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LIST OF ALL RECOGNIZED TRIBES, GENERA AND SPECIES WITHIN INFRAORDER: SCOLECOPHIDIA

FAMILY: TYPHLOPIDAE MERRUM, 1820

TYPHLOPINI TRIBE NOV.

Content: *Typhlops* Hemprich, 1820;
Altmantyplops gen. nov.

GENUS *TYPHLOPS* HEMPRICH, 1820

SUBGENUS *TYPHLOPS* HEMPRICH, 1820

Typhlops (*Typhlops*) *lumbricalis* (Linnaeus, 1758) (Type species), *T.* (*Typhlops*) *agoralionis* Thomas and Hedges, 2007, *T.* (*Typhlops*) *capitulatus* Richmond, 1964, *T.* (*Typhlops*) *eperopeus* Thomas and Hedges, 2007, *T.* (*Typhlops*) *gonavensis* Richmond, 1964, *T.* (*Typhlops*) *hectus* Thomas, 1974, *T.* (*Typhlops*) *jamaicensis* (Shaw, 1802), *T.* (*Typhlops*) *oxyrhinus* Dominguez and Diaz, 2011, *T.* (*Typhlops*) *pachyrhinus* Dominguez and Diaz, 2011, *T.* (*Typhlops*) *proancyclops* Thomas and Hedges, 2007, *T.* (*Typhlops*) *pusillus* Barbour, 1914, *T.* (*Typhlops*) *rostellatus* Stejneger, 1904, *T.* (*Typhlops*) *schwartzi* Thomas, 1984, *T.* (*Typhlops*) *sulcatus* Cope, 1868, *T.* (*Typhlops*) *sylliptor* Thomas and Hedges, 2007, *T.* (*Typhlops*) *syntherus* Thomas, 1965, *T.* (*Typhlops*) *tetrathyreus* Thomas, 1989, *T.* (*Typhlops*) *titanops* Thomas, 1989.

MOSESTYPHLOPS SUBGEN. NOV.

T. (*Mosestyplops*) *platycephalus* Duméril and Bibron, 1844 (Type species), *T.* (*Mosestyplops*) *annae* Breuil, 1999, *T.* (*Mosestyplops*) *catapontus* Thomas, 1966, *T.* (*Mosestyplops*) *dominicanus* Stejneger, 1904, *T.* (*Mosestyplops*) *granti* Ruthven and Gaige, 1934, *T.* (*Mosestyplops*) *guadeloupensis* Richmond, 1966, *T.* (*Mosestyplops*) *hypomethes* Hedges and Thomas, 1991, *T.* (*Mosestyplops*) *monastus* Thomas, 1966, *T.* (*Mosestyplops*) *monensis* Schmidt, 1926, *T.* (*Mosestyplops*) *naugus* Thomas, 1966, *T.* (*Mosestyplops*) *richardi* Duméril and Bibron, 1844.

DANNYTYPHLOPS SUBGEN. NOV.

T. (*Dannytyphlops*) *biminiensis* Richmond, 1955 (Type species), *T.* (*Dannytyphlops*) *anchaurus* Thomas and Hedges, 2007, *T.* (*Dannytyphlops*) *anousius* Thomas and Hedges, 2007, *T.* (*Dannytyphlops*) *arator* Thomas and Hedges, 2007, *T.* (*Dannytyphlops*) *caymanensis* Sackett, 1940, *T.* (*Dannytyphlops*) *contorhinus* Thomas and Hedges, 2007, *T.* (*Dannytyphlops*)

costaricensis Jimenez and Savage, 1963, *T.* (*Dannytyphlops*) *epactius* Thomas, 1968, *T.* *golyathi* Dominguez and Moreno, 2009, *T.* (*Dannytyphlops*) *lehneri* Roux, 1926, *T.* (*Dannytyphlops*) *paradoxus* Thomas, 1968, *T.* (*Dannytyphlops*) *perimyachus* Thomas and Hedges, 2007, *T.* (*Dannytyphlops*) *notorachius* Thomas and Hedges, 2007, *T.* (*Dannytyphlops*) *satelles* Thomas and Hedges, 2007, *T.* (*Dannytyphlops*) *stadelmani* Schmidt, 1936, *T.* (*Dannytyphlops*) *tasymicris* Thomas, 1974, *T.* *tenuis* (*Dannytyphlops*) Salvin, 1860, *T.* (*Dannytyphlops*) *trinitatus* Richmond, 1965, *T.* (*Dannytyphlops*) *tycherus* Townsend, Wilson, Ketzler and Luque-Montes, 2008.

ACETYPHLOPS SUBGEN. NOV.

T. (*Acetyphlops*) *microstomus* Cope, 1866.

ALTMANTYPHLOPS GEN. NOV.

ALTMANTYPHLOPS SUBGEN. NOV.

Altmantyplops (*Altmantyplops*) *reticulatus* (Linnaeus, 1758) (Type species), *A.* (*Altmantyplops*) *minuisquamus* Dixon and Hendricks, 1979.

GOLDSTEINTYPHLOPS SUBGEN. NOV.

A. (*Goldsteintyplops*) *brongersmianus* Vanzolini, 1972 (Type species), *A.* (*Goldsteintyplops*) *kirnerae* sp. nov.

COPELANDTYPHLOPS SUBGEN. NOV.

A. (*Copelandtyphlops*) *paucisquamus* Dixon and Hendricks, 1979, *A.* (*Copelandtyphlops*) *amoipira* Rodrigues and Junca, 2002, *A.* (*Copelandtyphlops*) *yonenagae* Rodrigues, 1991.

SMYTHTYPHLOPINI TRIBE NOV.

Content: *Aspidorhynchus* Fitzinger, 1843, *Megatyphlops* Broadley and Wallach, 2009, *Nintyphlops* gen. nov., *Smythtyphlops* gen. nov., *Swiletyphlops* gen. nov.

SMYTHTYPHLOPS GEN. NOV.

Smythtyphlops obtusus (Peters, 1865) (Type species).

SWILETYPHLOPS GEN. NOV.

Swiletyphlops angolensis (Bocage, 1866) (Type species), *S. elegans* (Peters, 1868).

NINTYPHLOPS GEN. NOV.

Nintyphlops cuneirostris (Peters, 1879) (Type species), *N. calabresii* (Gans and Laurent,

1965), *N. platyrhynchus* (Sternfeld, 1910).

ASPIDORHYNCHUS FITZINGER, 1843

Aspidorhynchus punctatus (Leach, 1819) (Type species), *A. bibronii* (Smith, 1846), *A. blanfordii* (Boulenger, 1889), *A. congestus* (Duméril and Bibron, 1844), *A. fornasinii* (Bianconi, 1847), *A. gierrai* (Mocquard, 1897), *A. kaimosae* (Loveridge, 1935), *A. lineolatus* (Jan, 1864), *A. manni* (Loveridge, 1941), *A. nanus* Broadley and Wallach, 2009, *A. nigrocandidus* (Broadley and Wallach, 2000), *A. punctatus* (Leach, 1819), *A. rondoensis* (Loveridge, 1942), *A. schmidti* (Laurent, 1956), *A. steinhausi* (Werner, 1909), *A. tanganicus* (Laurent, 1964), *A. usambaricus* (Laurent, 1964).

MEGATYPHLOPS BROADLEY AND WALLACH, 2009

Megatyphlops mucroso (Peters, 1854) (Type species), *M. anomalus* (Bocage, 1873), *M. brevis* (Scortecci, 1929), *M. schlegelii* (Bianconi, 1847).

COTTONTYPHLOPINI TRIBE NOV.

Content: *Cottontyphlops* gen. nov., *Laidlawtyphlops* gen. nov., *Letheobia* Cope, 1868, *Pillotttyphlops* gen. nov., *Rhinotyphlops* Fitzinger, 1843, *Trioanotyphlops* gen. nov., *Wilsontyphlops* gen. nov., *Whybrowtyphlops* gen. nov.

GENUS LETHEOBIA COPE, 1868

Letheobia pallida Cope, 1868, 2007 (Type species), *L. caeca* (Duméril, 1856), *L. erythraea* (Scortecci, 1928), *L. largeni* Broadley and Wallach, *L. pauwelsi* Wallach, 2005, *L. pembana* Broadley and Wallach, 2007, *L. swahilica* (Broadley and Wallach, 2007), *L. toritensis* Broadley and Wallach, 2007, *L. uluguruensis* (Barbour and Loveridge, 1928).

LIDLAWTYPHLOPS GEN. NOV.

Laidlawtyphlops unitaeniata (Peters, 1878) (Type species), *L. ataeniata* (Boulenger, 1912), *L. obtusa* (Peters, 1865), *L. somalica* (Boulenger, 1895), *L. scortecci* (Gand and Laurent, 1965).

GENUS WILSONTYPHLOPS GEN. NOV.

Wilsontyphlops gracilis (Sternfeld, 1910) (Type species), *W. buchholzi* (Werner, 1899), *W. debilis* (Joger, 1990), *W. decorosa* (Buchholz and Peters, 1875), *W. graueri* (Sternfeld, 1912), *W. jubana* (Broadley and Wallach, 2007), *W. kibarae* (De Witte, 1953), *W. rufescens* (Chabanaud, 1916), *W. sudanensis* (Schmidt, 1923).

PILLOTTYPHLOPS GEN. NOV.

Pillotttyphlops lumbriciformis (Peters, 1874) (Type species), *P. wittei* (Roux-Estève, 1974).

WHYBROWTYPHLOPS GEN. NOV.

WHYBROWTYPHLOPS SUBGEN. NOV.

Whybrowtyphlops (*Whybrowtyphlops*) *caecatus* (Jan, 1864).

JUDYWHYBROWEA SUBGEN. NOV.

Whybrowtyphlops (*Judywhybrowea*) *zenkeri* (Sternfeld, 1908) (Type species).

GENUS RHINOTYPHLOPS FITZINGER, 1843

Rhinotyphlops lalandei (Schlegel, 1839) (Type species), *R. boylei* (FitzSimons, 1932), *R. praeocularis* (Stejneger, 1894), *R. schinzi* (Boettger, 1887), *R. stejnegeri* (Loveridge, 1931).

GLEESONTYPHLOPS GEN. NOV.

Gleesontyphlops leucostictus (Boulenger, 1898).

COTTONTYPHLOPS GEN. NOV.

Cottontyphlops newtoni (Bocage, 1890) (Type species), *C. feae* (Boulenger, 1906).

TRIOANOTYPHLOPS GEN. NOV.

Trioanotyphlops simoni (Boettger, 1879) (Type species), *T. crossii* (Boulenger, 1893), *T. episcopus* (Franzen and Wallach, 2002), *T. leucocephalus* (Parker, 1930).

RONHOSERINI TRIBE NOV.

Content: *Ronhoserus* gen. nov., *Carrtyphlopa* gen. nov., *Eippertyphlopa* gen. nov., *Elliotttyphlopa* gen. nov., *Edwardstyphlops* gen. nov., *Woolftyphlops* gen. nov.

RONHOSERUS GEN. NOV.

Ronhoserus arenarius (Grandidier, 1872) (Type species), *R. albanalis* (Rendahl, 1918), *R. comorensis* (Boulenger, 1889), *R. decorsei* (Mocquard, 1901), *R. ocularis* (Parker, 1927).

EIPPERTYPHLOPEA GEN. NOV.

Eippertyphlopa andasibensis Wallach and Glaw, 2009 (Type species), *E. domerguei*.

ELLIOTTYPHLOPEA GEN. NOV.

Elliotttyphlopa microcephalus (Werner, 1909) (Type species), *E. reuteri* (Boettger, 1881).

EDWARDSTYPHLOPS GEN. NOV.

Edwardstyphlops madagascariensis (Boettger, 1877) (Type species), *E. rajeryi* (Renoult and Raselimanana, 2009).

WOOLFTYPHLOPS GEN. NOV.

Woolftyphlops mucronatus (Boettger, 1880).

CARRTYPHLOPEA GEN. NOV.

Carrtyphlopea exocoeti (Boulenger, 1887).

LIBERTADICTIINI TRIBE NOV.

Content: *Libertadictus* Wells and Wellington, 1983, *Sivadictus* Wells and Wellington, 1985.

GENUS LIBERTADICTUS WELLS AND WELLINGTON, 1983

L. bituberculatus (Peters, 1863) (Type species), *L. ammodytes* (Montague, 1914), *L. aspina* (Couper, Covacevich and Wilson, 1998), *L. australis* (Gray, 1845), *L. batillus* (Waite, 1894), *L. broomi* (Boulenger, 1898), *L. centralis* (Storr, 1984), *L. chamodracaena* (Ingram and Covacevich, 1993), *L. diversus* (Waite, 1894), *L. endoterus* (Waite, 1918), *L. ganei* (Aplin, 1998), *L. grypus* (Waite, 1918), *L. guentheri* (Peters, 1865), *L. hamatus* (Storr, 1981), *L. howi* (Storr, 1983), *L. kimberleyensis* (Storr, 1981), *L. leptosomus* (Robb, 1972), *L. ligatus* (Peters, 1879), *L. longissimus* (Aplin, 1998), *L. margaretae* (Storr, 1981), *L. micrommus* (Storr, 1981), *L. minimus* (Kinghorn, 1929), *L. nema* (Shea and Horner, 1997), *L. nigroterminatus* (Parker, 1931), *L. pilbarensis* (Aplin and Donnellan, 1993), *L. pinguis* (Waite, 1897), *L. proximus* (Waite, 1893), *L. robertsi* (Couper, Covacevich and Wilson, 1998), *L. silvia* (Ingram and Covacevich, 1993), *L. splendidus* (Aplin, 1998), *L. tovellii* (Loveridge, 1945), *L. troglodytes* (Storr, 1981), *L. unguirostris* (Peters, 1867), *L. waitii* (Boulenger, 1895), *L. wiedii* (Peters, 1867), *L. yampiensis* (Storr, 1981), *L. yirrikalae* (Kinghorn, 1942).

GENUS SIVADICTUS WELLS AND WELLINGTON, 1985

Sivadictus nigrescens (Gray, 1845) (Type species), *S. brongersmai* (Hahn, 1980), *S. elberti* (Roux, 1911), *S. erycinus* (Werner, 1901), *S. florensis* (Boulenger, 1887), *S. polygrammicus* (Schlegel, 1839), *S. undecimlineatus* (Hahn, 1980), *S. torresianus* (Boulenger, 1889).

MARTINWELLSTYPHLOPINI TRIBE NOV.

Acutotyphlops Wallach, 1995,
Martinwellstyplops gen. nov.

GENUS MARTINWELLSTYPHLOPS GEN. NOV.

M. banaorum (Wallach, Brown, Diesmos and Gee, 2007) (Type species).

GENUS ACUTOTYPHLOPS WALLACH, 1995

Acutotyphlops kunuaensis Wallach, 1995 (Type species), *Acutotyphlops infralabialis* (Waite,

1918), *Acutotyphlops solomonis* (Parker, 1939), *Acutotyphlops subocularis* (Waite, 1897).

RAMPHOTYPLOPINI TRIBE NOV.

Content: *Ramphotyphlops* Fitzinger, 1843, *Funkityphlops* gen. nov., *Johnwilsontyphlops* gen. nov., *Oxytyphlops* gen. nov.

GENUS RAMPHOTYPHLOPS FITZINGER, 1843

R. multilineatus (Schlegel, 1839) (Type species), *R. angusticeps* (Peters, 1877), *R. olivaceus* (Gray, 1845), *R. leucoproctus* (Boulenger, 1889).

OXYTYPHLOPS GEN. NOV.

Oxytyphlops marxi (Wallach, 1994).

JOHNWILSONTYPHLOPS GEN. NOV.

Johnwilsontyphlops acuticaudus (Peters, 1877) (type species), *J. becki* (Tanner, 1948), *J. adocetus* (Wynn, Reynolds, Buden, Falanruw and Lynch, 2012), *J. cummingii* (Gray, 1845), *J. depressus* (Peters, 1880), *J. flaviventer* (Peters, 1864), *J. hatmaliyeb* (Wynn, Reynolds, Buden, Falanruw and Lynch, 2012), *J. mansuetus* (Barbour, 1921), *J. similis* (Brongersma, 1934), *J. supranasalis* (Brongersma, 1934), *J. willeyi* (Boulenger, 1900).

FUNKITYPHLOPS GEN. NOV.

Funkityphlops lineatus (Schlegel, 1839) (Type species).

MAXHOSERINI TRIBE NOV.

Content: *Maxhoserus* gen. nov.,
Piersontyphlops gen. nov.

MAXHOSERUS GEN. NOV.

Maxhoserus braminus (Daudin, 1803), *M. conradi* (Peters, 1874), *M. jerdoni* (Boulenger, 1890), *M. khoratensis* (Taylor, 1962), *M. lankaensis* (Taylor, 1947), *M. leucomelas* (Boulenger, 1890), *M. malcolmi* (Taylor, 1947), *M. pammeces* (Günther, 1864), *M. tenebrarum* (Taylor, 1947), *M. veddae* (Taylor, 1947) and *M. violaceus* (Taylor, 1947).

PIERSONTYPHLOPS GEN. NOV.

Piersontyphlops albiceps (Boulenger, 1898) (Type species).

RENTONTYPHLOPS GEN. NOV.

Rentontyphlops thurstoni (Boettger, 1890) (Type species).

ARGYOPHIINI TRIBE NOV.

Argyophis Gray, 1845.

GENUS ARGYOPHIS GRAY, 1845

Argyophis diardii (Schlegel, 1839) (Type species), *A. bothriorhynchus* (Günther, 1864), *A.*

fuscnotus (Brongersma, 1934), *A. giadinhensis* (Bourret, 1937), *A. horsfieldii* Gray, 1845, *A. hypsobothrius* (Werner, 1917), *A. klemmeri* (Taylor, 1962), *A. koekkoeki* (Brongersma, 1934), *A. koshunensis* (Oshima, 1916), *A. lorenzi* (Werner, 1909), *A. muelleri* (Schlegel, 1839), *A. nigroalbus* (Duméril and Bibron, 1844), *A. oatesii* (Boulenger, 1890), *A. roxaneae* (Wallach, 2001), *A. siamensis* (Günther, 1864), *A. tenuicollis* (Peters, 1864), *A. trangensis* (Taylor, 1962) *A. wilsoni* (Wall, 1908).

KATRINAHOSERTYPLOPINI TRIBE NOV.

Content: *Katrinahosertyphlops* gen. nov.

GENUS KATRINAHOSERTYPHLOPS GEN. NOV.

Katrinahosertyphlops ruber (Boettger, 1897) (Type species), *K. canloanensis* (Taylor, 1917), *K. castanotus* (Wynn and Leviton, 1993), *K. collaris* (Wynn and Leviton, 1993), *K. dichromatus* (Jan, 1864), *K. fuscus* (Duméril and Bibron, 1844), *K. hypogius* (Savage, 1950), *K. kraali* (Doria, 1874), *K. luzonensis* (Taylor, 1919), *K. ruficaudus* (Gray, 1845), *K. suluensis* (Taylor, 1918).

LENHOSERTYPHLOPINI TRIBE NOV.

Content: *Lenhosertyphlops* gen. nov.

GENUS LENHOSERTYPHLOPS GEN. NOV.

Content: *Lenhosertyphlops vermicularis* (Merrem, 1820) (Type species), *Lenhosertyphlops etheridgei* (Wallach, 2002), *Lenhosertyphlops socotranus* (Boulenger, 1889).

CROTTYTYPHLOPINI TRIBE NOV.

Crottytyphlops gen. nov., *Arnoldtyphlops* gen. nov., *Freudtyphlops* gen. nov.

CROTTYTYPHLOPS GEN. NOV.

CROTTYTYPHLOPS SUBGEN. NOV.

Crottytyphlops porrectus (Stoliczka, 1871) (Type species).

ROLYBURRELLUS SUBGEN. NOV.

Crottytyphlops (Rolyburrellus) madgemintonae (Khan, 1999) (Type species), *C. (Rolyburrellus) ahsanuli* (Khan, 1999).

GENUS ARNOLDTYPHLOPS GEN. NOV.

Arnoldtyphlops lazelli (Wallach and Pauwells, 2004) (Type species).

FREUDTYPHLOPS GEN. NOV.

Freudtyphlops exiguus (Jan, 1864) (Type species), *F. filiformis* (Duméril and Bibron, 1844), *F. loveridgei* (Constable, 1949), *F. meszoelyi* (Wallach, 1999), *F. schmutzi* (Auffenberg, 1980).

CYCLOTYPHLOPINI TRIBE NOV.

Content: *Cyclotyphlops* In Den Bosch and Ineich, 1994

GENUS CYCLOTYPHLOPS IN DEN BOSCH AND INEICH, 1994

Cyclotyphlops deharvengi In Den Bosch and Ineich, 1994 (Type species).

TRIBE GRYPTOTYPHLOPIDINI TRIBE NOV.

Content: *Gryptotyphlops* Peters, 1881.

GENUS GRYPTOTYPHLOPS PETERS, 1881

Gryptotyphlops acutus (Duméril and Bibron, 1844).

FAMILY XENOTYPHLOPIDAE VIDAL ET. AL. 2010

XENOTYPHLOPIDINI TRIBE NOV.

Content: *Xenotyphlops* Wallach and Ineich, 1996.

GENUS XENOTYPHLOPS WALLACH AND INEICH, 1996

Xenotyphlops grandidieri (Mocquard, 1905), *Xenotyphlops mocquardi* Wallach, Mercurio and Andreone, 2007.

FAMILY GERRHOPILIDAE VIDAL ET. AL. 2010

TRIBE GERRHOPILIDINI TRIBE NOV.

Content: *Billmacordus* gen. nov., *Gerrhopilus* Fitzinger, 1843.

GENUS GERRHOPILUS FITZINGER, 1843

Gerrhopilus ater (Schlegel, 1839) (Type species), *G. andamanensis* (Stoliczka, 1871), *G. bisubocularis* (Boettger, 1893), *G. carolinehoserae* sp. nov., *G. floweri* (Boulenger, 1899), *G. fredparkeri* (Wallach, 1996), *G. hades* (Kraus, 2005), *G. hedraeus* (Savage, 1950), *G. inornatus* (Boulenger, 1888), *G. mcdowellii* (Wallach, 1996).

GENUS BILLMACORDUS GEN. NOV.

Billmacordus depressiceps (Sternfeld, 1913) (Type species).

CYRILHOSERINI TRIBE NOV.

Content: *Cyrilhoserus* gen. nov.

CYRILHOSERUS GEN. NOV.

Cyrilhoserus mirus (Jan, 1860) (type species), *C. beddomii* (Boulenger, 1890), *C. ceylonicus* (Smith, 1943), *C. oligolepis* (Wall, 1909), *C. tindalli* (Smith, 1943).

FAMILY LEPTOTYPHLOPIDAE STEJNEGER, 1892**SUBFAMILY EPICTINAE HEDGES, ADALSTEINSSON AND BRANCH, 2009****TRIBE EPICTINI HEDGES, ADALSTEINSSON AND BRANCH, 2009**

Content: See subtribes.

SUBTRIBE EPICTINA HEDGES, ADALSTEINSSON AND BRANCH, 2009

Content: *Crishagenus* gen. nov., *Epictia* Gray, 1845, *Siagonodon* Peters, 1881.

CRISHAGENUS GEN. NOV.

Crishagenus magnamaculata (Taylor, 1940) (Type species), *C. columbi* (Klauber, 1939), *C. goudotii* (Duméril and Bibron, 1844), *C. nasalis* (Taylor, 1940).

GENUS EPICTIA GRAY, 1845

Epictia albifrons (Wagler, 1824) (Type species).

GENUS SIAGONODON PETERS, 1881

Siagonodon septemstriatus (Schneider, 1801) (Type species), *S. acutirostris* Pinto and Curcio, 2011, *S. borrichianus* (Degerbol, 1923), *S. cupinensis* (Bailey and Carvalho, 1946).

SUBTRIBE RENINA HEDGES, ADALSTEINSSON AND BRANCH, 2009

Evanwhittonus gen. nov., *Rena* Baird and Girard, 1853, *Trilepida* Hedges, 2011, *Tetracheilostoma* Jan, 1861.

EVANWHITTONUS GEN. NOV.

Evanwhittonus unguirostris (Boulenger, 1902) (Type species).

GENUS RENA BAIRD AND GIRARD, 1853

Rena humilis Baird and Girard, 1853 (Type species), *R. boettgeri* (Werner, 1899), *R. bressoni* (Taylor, 1939), *R. dissecta* (Cope, 1896), *R. dulcis* Baird and Girard, 1853, *R. humilis* Baird and Girard, 1853, *R. maxima* (Loveridge, 1932), *R. myopica* (Garman, 1884).

GENUS TRILEPIDA HEDGES, 2011

Trilepida macrolepis (Peters, 1857) (Type species), *T. affinis* (Boulenger, 1884), *T. anthracina* (Bailey, 1946), *T. brasiliensis* (Laurent, 1949), *T. brevissima* (Shreve, 1964), *T. dimidiata* (Jan, 1861), *T. dugandi* (Dunn, 1944), *T. fuliginosa* (Passos, Caramaschi and Pinto, 2006), *T. guayaquilensis* (Orejas-Miranda and Peters, 1970), *T. joshuai* (Dunn, 1944), *T. koppesi* (Amaral, 1955), *T. nicefori* (Dunn, 1946), *T. salgueiroi* (Amaral, 1955).

SUBTRIBE TETRACHEILOSTOMINA HEDGES, ADALSTEINSSON AND BRANCH, 2009

Content: *Mitophis* Hedges, Adalsteinsson and Branch, 2009, *Tetracheilostoma* Jan, 1861

GENUS MITOPHIS HEDGES, ADALSTEINSSON AND BRANCH, 2009

Mitophis pyrites (Thomas, 1965) (Type species), *M. asbolepis* (Thomas, McDairmid and Thompson, 1985), *M. calypso* (Thomas, McDairmid and Thompson, 1985), *M. leptipileptus* (Thomas, McDairmid and Thompson, 1985).

GENUS TETRACHEILOSTOMA JAN, 1861

Tetracheilostoma bilineatum (Schlegel, 1839) (Type species), *T. breuili* (Hedges, 2008), *T. carlae* (Hedges, 2008).

TRIBE RHINOLEPTINI HEDGES, ADALSTEINSSON AND BRANCH, 2009

Bobbottomus gen. nov., *Rhinoleptus* Orejas-Miranda, Roux-Estève and Guibé, 1970, *Tricheilostoma* Hedges, Adalsteinsson and Branch, 2009.

GENUS TRICHEILOSTOMA HEDGES, ADALSTEINSSON AND BRANCH, 2009

Tricheilostoma bicolor (Jan, 1860) (Type species), *T. broadleyi* (Wallach and Hahn, 1997), *T. dimidiatum* (Jan, 1861), *T. greenwelli* (Wallach and Boundy, 2005), *T. jani* Pinto and Fernandes, 2012, *T. sundewalli* (Jan, 1862).

GENUS RHINOLEPTUS OREJAS-MIRANDA, ROUX-ESTÈVE AND GUIBÉ 1970

Rhinoleptus koniagui (Villiers, 1956) (Type species).

GENUS BOBBOTTOMUS GEN. NOV.

Bobbottomus parkeri (Broadley, 1999) (Type species).

SUBFAMILY LEPTOTYPHLOPINAE STEJNEGER, 1892**TRIBE EPACROPHINI HEDGES, ADALSTEINSSON AND BRANCH, 2009**

Content: *Epacrophis* Hedges, Adalsteinsson and Branch, 2009.

GENUS EPACROPHIS HEDGES, ADALSTEINSSON AND BRANCH, 2009

Epacrophis reticulatus (Boulenger, 1906) (Type species), *E. boulengeri* (Boettger, 1913), *E. drewesi* (Wallach, 1996).

TRIBE MYRIOPHOLINI HEDGES, ADALSTEINSSON AND BRANCH, 2009

Content: *Myriopholis* Hedges, Adalsteinsson and Branch, 2009, *Scanlonus* gen. nov.

GENUS MYRIOPHOLIS HEDGES, ADALSTEINSSON AND BRANCH, 2009

Myriopholis longicaudum (Peters, 1854) (Type species), *M. ionidesi* (Broadley and Wallach, 2007).

SCANLONUS GEN. NOV.

SCANLONUS SUBGEN. NOV.

Scanlonus blanfordi (Boulenger, 1890) (Type species), *S. adleri* (Hahn and Wallach, 1998), *S. albiventer* (Hallermann and Rodel, 1995), *S. boueti* (Chabanaud, 1917), *S. braccianii* (Scortecci, 1929), *S. burii* (Boulenger, 1905), *S. cairi* (Duméril and Bibron, 1844), *S. dissimile* (Bocage, 1886), *S. erythraea* (Scortecci, 1929), *S. filiformis* (Boulenger, 1899), *S. macrorhynchum* (Jan, 1860), *S. macrura* (Boulenger, 1903), *S. nariostre* (Peters, 1867), *S. natatrix* (Andersson, 1937), *S. nursii* (Anderson, 1896), *S. perreti* (Roux-Esteve, 1979), *S. phillipsi* (Barbour, 1914), *S. rouxestevae* (Trape and Mane, 2004), *S. tanae* (Broadley and Wallach, 2007), *S. wilsoni* (Hahn, 1978), *S. yemenicus* (Scortecci, 1933).

SUBGENUS LONGINIDIS SUBGEN. NOV.

Scanlonus (Longinidis) algeriensis (Jacquet, 1895) (Type species).

TRIBE LEPTOTYPHLOPINI HEDGES, ADALSTEINSSON AND BRANCH, 2009

Karimdaouesus gen. nov., *Leptotyphlops* Fitzinger, 1843, *Namibiana* Hedges, Adalsteinsson and Branch, 2009.

KARIMDAOUESUS GEN. NOV.

Karimdaouesus kafubi (Boulenger, 1919) (Type species), *K. aethiopicus* (Broadley and Wallach, 2007), *K. emini* Boulenger, 1890. *K. howelli* (Broadley and Wallach, 2007), *K. keniensis* (Broadley and Wallach, 2007), *K. macrops* (Broadley and Wallach, 1996), *K. mbanjensis* (Broadley and Wallach, 2007), *K. pembae* (Loveridge, 1941).

GENUS LEPTOTYPHLOPS FITZINGER, 1843

SUBGENUS LEPTOTYPHLOPS FITZINGER, 1843

Leptotyphlops (Leptotyphlops) nigricans (Schlegel, 1839) (Type species), *L. (Leptotyphlops) conjunctus* (Jan, 1861) (see above), *L. (Leptotyphlops) incognitus* (Broadley and Watson, 1976), *L. (Leptotyphlops) jacobseni* (Broadley and Broadley, 1999), *L. (Leptotyphlops) sylvicolus* Broadley and Wallach, 1997.

OTTOBREUS SUBGEN. NOV.

Leptotyphlops (Ottobreus) merkeri (Werner, 1909) (Type species), *L. (Ottobreus) nigroterminus* Broadley and Wallach, 2007, *L. (Ottobreus) pitmani* Broadley and Wallach, 2007.

TEESLEPTOTYPHLOPS SUBGEN. NOV.

Leptotyphlops (Teesleptotyphlops) scutifrons

(Peters, 1854) (Type species), *L. (Teesleptotyphlops) conjunctus* (Jan, 1861) (see comment above), *L. (Teesleptotyphlops) distanti* (Boulenger, 1892), *L. (Teesleptotyphlops) pungwensis* (Broadley and Wallach, 1997), *L. (Teesleptotyphlops) telloi* (Broadley and Watson, 1976).

GENUS NAMIBIANA HEDGES, ADALSTEINSSON AND BRANCH, 2009

Namibiana occidentalis (Fitzsimons, 1962) (Type species), *N. gracilior* (Boulenger, 1910), *N. labialis* (Sternfeld, 1908), *N. latifrons* (Sternfeld, 1908), *N. rostrata* (Bocage, 1886).

FAMILY ANOMALEPIDAE TAYLOR, 1937

ANOMALEPIINI TRIBE NOV.

Content: *Anomalepis* Jan, 1860.

GENUS ANOMALEPIS JAN, 1860

SUBGENUS ANOMALEPIS JAN, 1860

Anomalepis mexicanus Jan, 1860 (Type species).

MACPHIEUS SUBGEN. NOV.

Anomalepis (Macphieus) aspinosus Taylor, 1939 (Type species), *A. (Macphieus) colombia* Marx, 1953, *A. (Macphieus) flavapices* Peters, 1957.

TRIBE HELMINTHOPHIINI TRIBE NOV.

Helminthophis Peters, 1860, *Liotyphlops* Peters, 1881.

GENUS HELMINTHOPHIS PETERS, 1860

Helminthophis frontalis Peters, 1860, *H. flavoterminalis* (Peters, 1857), *H. praeocularis* Amaral, 1924.

GENUS LIOTYPHLOPS PETERS, 1881.

SUBGENUS LIOTYPHLOPS PETERS, 1881.

Liotyphlops (Liotyphlops) albirostris (Peters, 1857) (Type species), *L. (Liotyphlops) caissara* Centeno, Sawaya and Germano, 2010, *L. (Liotyphlops) wilderi* (Garman, 1883).

KRAUSSUS SUBGEN. NOV.

Liotyphlops (Kraussus) anops (Cope, 1899) (Type species), *L. (Kraussus) argaleus* Dixon and Kofron, 1984, *L. (Kraussus) haadi* Silva-haad, Franco and Maldonado, 2008, *L. (Kraussus) trefauti* Freire, Caramaschi, Suzart Argolo, 2007.

HAWKESWOODUS SUBGEN. NOV.

Liotyphlops (Hawkeswoodus) ternetzii (Boulenger, 1896) (Type species), *L. (Hawkeswoodus) beui* (Amaral, 1924), *L. (Hawkeswoodus) schubarti* Vanzolini, 1948.

TYPHLOPHISINI TRIBE NOV.

Content: *Typhlophis* Fitzinger, 1843

GENUS TYPHLOPHIS FITZINGER, 1843

Typhlops squamosus Schlegel, 1839 (Type species).