

# A reassessment of the Tropicodphiidae, including the creation of two new tribes and the division of *Tropicodphis* Bibron, 1840 into six genera, and a revisiting of the Ungaliophiinae to create two subspecies within *Ungaliophis panamensis* Schmidt, 1933.

RAYMOND T. HOSER

488 Park Road, Park Orchards, Victoria, 3134, Australia.

Phone: +61 3 9812 3322 Fax: 9812 3355 E-mail: [snakeman@snakeman.com.au](mailto:snakeman@snakeman.com.au)

Received 10 January 2013, Accepted 27 January 2013, Published 29 April 2013.

## ABSTRACT

Until now, Tropicodphiidae have consisted two well-defined groups, recognized as distinct at the genus level. *Trachyboa* Peters, 1860 consists of just two described species. The genus *Tropicodphis* Bibron, 1840 contains about 32 currently recognized species, plus numerous subspecies. Within this group, six well-defined species groups have been known for some time. In the wake of recent molecular studies confirming divergence between these groups as well-defined clades, easily separated morphologically, the species groups are formally recognized in this paper for the first time by division into six genera. Due to the lack of available names for four, these are diagnosed and named according to the Zoological Code.

Three genera are further subdivided into subgenera, one into four and two into three, all named according to the Zoological Code.

Furthermore the two main groups within the family, namely *Trachyboa* as the first group and then the rest of the genera as the second group, are formally placed in new tribes, named according to the Zoological Code. The South American species formerly placed in *Tropicodphis* are herein placed in a new subtribe.

The species *Ungaliophis panamensis* Schmidt, 1933, is herein divided into three subspecies, one named herein for the first time.

**Keywords:** Taxonomy; family; Tropicodphiidae; new tribes: Tropicodphiini; Trachybooiini; News tribes; Adelynhoserboaiina; Tropicodphiinina; Genus; *Tropicodphis*; *Leionotus*; new genera; *Adelynhoserboa*; *Jackyhoserboa*; *Wellsboa*; *Wellingtonboa*; new subgenera; *Pattersonboa*; *Merceicaboa*; *Eseraboa*; *Robertbullboa*; *Rodwellboa*; *Wittboa*; *Tonylsilvaboa*; *Ungaliophis panamensis*; New subspecies; *lovelinayi*.

## INTRODUCTION

The Tropicodphiidae or dwarf boas, are a family of snakes from the Caribbean and South America.

The small to medium sized fossorial snakes have been subject of recent taxonomic interest at the species level, (e.g. Curcio *et al.* 2012 and papers cited therein) with new species being described frequently in the last half century.

The greatest diversity of described species is in Cuba, which has roughly the same number of described taxa as all other places combined. Most species spend their day hiding underground or concealed under vegetation, appearing in the open only at night or when it rains. Some species are arboreal and are often seen hiding in bromeliads in trees. They can change color from light (when they are active at night) to dark (inactive in the

day). This color change is brought about by the movement of dark pigment granules and seen in other reptiles such as geckos and also many frogs. When threatened, they coil up into a tight ball, another common defensive trait of smallish reptiles. A more peculiar defensive behavior noted is the ability to bleed voluntarily from the eyes, mouth, and nostrils.

At the genus level, there has been little if any interest in the group for decades.

Until now, Tropicodphiidae have consisted two well-defined groups, recognized as distinct at the genus level. *Trachyboa* Peters, 1860 consists of just two described species. The genus *Tropicodphis* Bibron, 1840 contains about 32 currently recognized species,

plus numerous subspecies. Within this group, six well-defined species groups have been known for some time, only one other of which has an available name, that being dated 1840 and effectively synonymised with *Tropidophis* ever since.

While all species within *Tropidophis* as recognized to date are morphologically similar, published studies have increasingly pointed to the fact that these similarities owe a lot to convergence in evolution, rather than particularly close relationships.

Numerous studies, including for example Chakrabarty (2006), who in turn cites numerous geological studies, have shown that the non-marine faunal elements of the greater Antilles have been separated from one another at the main island level for considerable time periods and that there has been little, if any faunal interchange since then.

By way of example, the faunas of Cuba and Hispaniola have been separated for about 25 million years, with Jamaica separating even earlier.

Recent studies of *Anolis* including that of Alfoldi *et al.* also show divergence of species groups is considerably more ancient than morphology alone may imply.

With molecular and other studies increasingly rejecting the dispersal model for extant distributions of many terrestrial vertebrate animal species in favour of vicariance as the dominant force, it is important that a biologically significant group such as *Tropidophis* has its taxonomy revisited in light of this new information, with nomenclature to reflect the phylogenetic histories of each of the main clades.

Hedges (2002) and Wilcox *et al.* (2002) in particular sets the basis for this long overdue reclassification of the *Tropidophis* as set out in this paper, noting in particular that later authors and their published results have in effect validated the main conclusions of Hedges (2002), but without incorporating these findings at the genus level of taxonomy or higher.

With lizard taxonomy of the Antilles being rearranged in recent times, in particular the genus *Anolis sensu lato*; see for example Burnell and Hedges (1990), Cannatella and de Queiroz (1989), Etheridge (1960), Guyer and Savage (1986, 1992), Hass *et al.* (1993), Nicholson *et al.* (2012), Poe (1998, 2004), Savage and Guyer (1989, 1991), Savage and Talbot (1978), (although not without controversy), it is necessary to bring the classification of the *Tropidophis* up to date in line of the recently available evidence and according to the current Zoological Code (Ride *et al.* 1999).

Key publications in relation to the taxonomy of *Tropidophis* include: Boulenger (1983), Brongersma (1951), Burger (2004), Cochran (1941), Cope (1879), Crutchfield and Potts (2011), Curcio *et al.* (2012), Fischer (1888), Garman (1887), Hedges (2002), Hedges and Garrido (1992, 2002), Hedges *et al.* (1989), Henderson and Schwartz (1984), Mattison (2007), McDiarmid *et al.* (1999), Mehtens (1987), Powell and Incháustegui (2009), Schwartz (1975), Schwartz and Marsh (1960), Schwartz and Henderson (1991), Stull (1928, 1935), Tolson and Henderson (1993), Underwood (1967, 1976) and sources cited within.

This paper does not seek to rehash the volumes of data

within these papers, but instead relies on this evidence to produce a relevant and new taxonomy for the Tropidophiidae that reflects our current understanding of these snakes and in accordance with the currently in force Zoological Code (Ride *et al.* 1999).

I also note that *Tropidophis* as first proposed and used for most of the period from 1840 to 2013 was done so as a genus within the Boidae. This is now not known to be the case and so Tropidophiidae has in effect been elevated to the family level. While the genus name remains valid for the nominate form, it is clear that the well defined species groups are sufficiently divergent from one another to warrant divisions below the family level and including genus level splits, forming the basis for the rationale behind what is done within this paper.

In summary what I have proposed herein is in line with classification systems engaged for reptile groups as diverse as pythons (Pythonidae), Boas (Boidae), Elapids (Elapidae) and so on. The extinct genus *Messelophis* Baszio, 2004 from the Eocene of Messel is ignored in terms of this reclassification due to the lack of relevant information for the taxon.

The family Ungaliophiidae (sometimes treated by authors as Ungaliophiinae) (a group closely associated with the Tropidophiidae) as currently recognized includes two recognized genera, namely, the very distinct and monotypic species *Exiliboa placata* Bogert, 1968 (Bogert 1968b) and two species within the genus *Ungaliophis* Müller, 1888. These are *Ungaliophis continentalis* Müller, 1888 and *Ungaliophis panamensis* Schmidt, 1933.

In a review of the genus, *Ungaliophis*, Bogert (1968a) subsumed the species *Ungaliophis danieli* Prado, 1940 into *Ungaliophis panamensis* Schmidt, 1933.

This was on the basis that he regarded the variation between specimens as clinal between populations as opposed to specific differences, although he noted that it was a tenable alternative to do the reverse.

Revisiting this data, and to a lesser extent that of other authors including: Conant (1966), Dunn and Bailey (1939), Nemuras (1967), Prado (1940), Schmidt (1933), Taylor (1951) and Werner (1921) one sees that the primary differentiation between the two recognized species as recognized by Bogert was the dorsal pattern (ovoid paravertebral blotches versus angular) and not other variable characters such as mid-body scale rows, which Bogert asserted was clinal in variation.

The same view was taken by Bogert in terms of other regionally variable characteristics such as ventral and subcaudal counts as well as differences in head scalation.

Noting the rarity of *Ungaliophis panamensis* Schmidt, 1933 based on specimens lodged in Museums and the fact that the three known disjunct populations sampled are unlikely to connect with one another, I regard taxonomic recognition of each quite different population as important.

As the southernmost known population can take the subspecific name, *danieli* Prado, 1940, it is only the northern Nicaraguan population that requires a name.

It is herein formally described according to the Zoological Code as *Ungaliophis panamensis lovelinayi* subsp. nov. in the latter part of this paper.

**FAMILY TROPIDOPHIIDAE****(Terminal taxon: *Boa melanura* Schlegel, 1837)****(Now generally known as *Tropidophis melanurus* (Schlegel, 1837))**

**Diagnosis:** This is essentially adapted from Brongersma (1951). The family Tropidophiidae may be characterized as Boid snakes in which only the right lung and a tracheal lung are present; the kidneys are not lobed and they are placed more posteriorly than in other Boidae. The supraorbital bone is present as in the Boinae, and they show the Boine type (Beddard, 1908, p. 143) of intercostal arteries. In connection with the disappearance of the left lung, the left pulmonary artery has been reduced to a mere rudiment that is functional only in the embryo as forming part of the ductus arteriosus Botalli. The postcaval vein and the portal vein are placed close to one another in the region of the liver.

*Ungaliophis* (Family: Ungaliophiidae) differs from Tropidophiidae in the presence of one large azygous prefrontal instead of one or two pairs of prefrontals. *Epicrates* Wagler, 1830 (Family Boidae) the only other boid-like genus found in the West Indies, differs in the presence of extremely long anterior teeth on both jaws, which is the same situation for the other true Boas (Boidae) of South and Central America.

Type genus of the family is *Tropidophis* Bibron, 1843.

**Distribution:** Known mainly from the West Indies but including Central America and northern South America.

**Content:** *Tropidophis* Bibron, 1843; *Leionotus* Bibron, 1840; *Trachyboa* Peters, 1860; *Adelynhoserboa gen. nov.* (this paper); *Jackyhoserboa gen. nov.* (this paper); *Wellingtonboa gen. nov.* (this paper); *Wellsboa gen. nov.* (this paper).

**NEW TRIBE TROPIDOPHIININI TRIBE NOV.****(Terminal taxon: *Boa melanura* Schlegel, 1837)****(Now generally known as *Tropidophis melanurus* (Schlegel, 1837))**

**Diagnosis:** Adapted largely from Stull (1928) as given for what she recognized as the genus *Tropidophis* Bibron, 1843 (*sensu lato*) as split herein to include all genera within the family Tropidophiidae excluding the genus *Trachyboa* Peters, 1860.

The tribe Tropidophiinini is defined herein as boid-like snakes with the head distinct from the neck and covered with shields; viz., a pair of internasals, 1 or 2 pairs of prefrontals, 1 frontal, 1 pair of parietals, 1 pair of supraoculars, 1 or 2 pairs of preoculars, 2 or 3 pairs of postoculars, no loreal. The nostril is between the two nasals.

The eye has a vertical pupil. The body is cylindrical or compressed, tapering at the ends. A short prehensile tail.

The anal plate is undivided and the subcaudals are single. The teeth are larger anteriorly, decreasing in size posteriorly. Premaxillary teeth are lacking. The hemipenes are bifurcate and laminate, or quadrifurcate and falcated.

*Ungaliophis* (Family: Ungaliophiidae) differs from Tropidophiidae (including this tribe) in the presence of one large azygous prefrontal instead of one or two pairs of prefrontals. *Epicrates* Wagler, 1830 (Family Boidae) the only other boid-like genus found in the West Indies,

differs in the presence of extremely long anterior teeth on both jaws, which is the same situation for the other true Boas (Boidae) of South and Central America.

*Trachyboa* the sole member of the tribe *Trachyboaiini* tribe nov. resembles *Exiliboa* in having the nostril in an undivided nasal, and it possesses comparable numbers of ventrals and subcaudals. Most of the cephalic plates have been replaced by scales on *Trachyboa*, and it has 29 to 31 rows of scales at midbody; moreover, well-developed hypapophyses are present on all vertebrae of *Trachyboa*; *Trachyboa* is an extremely rugose snake, adaptively specialized to forage on the surface (Bogert, 1968a), unlike the comparatively slender, smooth-scaled dwarf boas of genus *Tropidophis*, which at best are only slightly to moderately rugose.

**Distribution:** Cuba, Jamaica, Hispaniola, Navassa, Inagua, Andros, New Providence, and Great Abaco, in the East Indies; Ecuador, Peru, and Brazil.

**Content:** *Tropidophis* Bibron, 1843 (type genus); *Leionotus* Bibron, 1840; *Adelynhoserboa gen. nov.* (this paper); *Jackyhoserboa gen. nov.* (this paper); *Wellingtonboa gen. nov.* (this paper); *Wellsboa gen. nov.* (this paper).

**NEW SUBTRIBE ADELYNHOSERBOAINA SUBTRIBE NOV.****(Terminal taxon: *Ungalia taczanowskyi* Steindachner, 1880)****Currently most widely known as *Tropidophis taczanowskyi* (Steindachner, 1880)**

**Diagnosis:** The diagnosis for this subtribe is as for the genus *Adelynhoserboa gen. nov.*

It can also be reversed to apply as a diagnosis for the other subtribe Tropidphiinina subtribe nov.

The venters of *Adelynhoserboaiina* Subtribe nov. consist of black and yellow spots and bands (Stull, 1928). Such a pattern does not occur in any specimens within the subtribe Tropidphiinina Subtribe nov. (Hedges 2002).

**Distribution:** South America.

**Content:** *Adelynhoserboa gen. nov.* (this paper).

**Etymology:** Named in recognition of my daughter, Adelyn Hoser, aged 13 at the time of publishing this paper for numerous services to wildlife conservation and herpetology.

**NEW GENUS ADELYNHOSERBOA GEN. NOV.****Type species: *Ungalia taczanowskyi* Steindachner, 1880****Currently most widely known as *Tropidophis taczanowskyi* (Steindachner, 1880)**

**Diagnosis:** The diagnosis for this genus is as for the subtribe *Adelynhoserboaiina* tribe nov.

It can also be reversed to apply as a diagnosis for the other subtribe Tropidphiinina subtribe nov.

The venters of *Adelynhoserboa gen. nov.* consist of a pattern of black and yellow spots and bands (Stull, 1928). Such a pattern does not occur in any specimens within the subtribe Tropidphiinina Subtribe nov. (Hedges 2002).

**Distribution:** South America.

**Content:** *Adelynhoserboa taczanowskyi* (Steindachner, 1880) (Type species); *A. battersbyi* (Laurent, 1949), *A. grapiuna* (Curcio et al. 2012); *A. paucisquamis* (Müller,

1901); *A. preciosus* (Curcio *et al.* 2012).

**Etymology:** Named in recognition of my daughter, Adelyn Hoser, aged 13 at the time of publishing this paper for numerous services to wildlife conservation, wildlife rescue and herpetology.

**NEW SUBGENUS ADELYNHOSERBOA SUBGEN. NOV.**

**Type species:** *Ungalia taczanowskyi* Steindachner, 1880

**Currently most widely known as** *Tropidophis taczanowskyi* (Steindachner, 1880)

**Diagnosis:** The monotypic subgenus containing the species *Adelynhoserboa taczanowskyi* is separated from all other subgenera by the following suite of characters: (1) 146-160 ventrals (vs. 164-183 in *A. paucisquamis*; 200 in *A. battersbyi*, and 196-203 in *A. preciosus*); (2) 23 dorsal scales at midbody (vs. dorsals at midbody usually 21 or 23, rarely 25 in *A. paucisquamis*); (3) vertebral scale row not distinctly enlarged in size relative to remaining dorsals (vs. vertebral row of dorsals usually enlarged, wider than long, at least on part of the trunk in *A. paucisquamis* and *A. preciosus*); (4) dorsals distinctively keeled except for the first five rows on anterior two-thirds of trunk and the first three rows on the posterior one-third of trunk (vs. dorsals smooth or feebly keeled in *A. paucisquamis* and smooth in *A. battersbyi* and *A. preciosus*); (5) inter- parietals usually present, well developed (vs. interparietals usually absent in *A. paucisquamis*; absent in *A. preciosus*); (6) parietals usually in slight contact or fully separated by interparietals (vs. parietals in full contact along the middorsal line of head in *A. paucisquamis* and *A. preciosus*); (7) up to 20 maxillary teeth (vs. 12 in *A. battersbyi*); (8) eight spot rows around body, six on dorsum and two on venter (vs. six spot rows around the body, four on dorsum and two on venter in *T. battersbyi*); and (9) body spotted, dorsal spots usually no larger than one or two dorsals in diameter on paravertebral rows, sometimes becoming longer on flanks resulting in interrupted lateral stripes (vs. body spotted without any tendency to form stripes in all other mainland species) (Curcio *et al.* 2012).

In comparisons with other mainland *Adelynhoserboa* gen. nov. segmental counts and head scaling of *A. taczanowskyi* are rather similar to those of *A. grapiuna*. In addition, both have distinctively keeled dorsals, although the keels of *A. taczanowskyi* are noticeably stronger. However, besides the difference in general dorsal pattern, the conspicuous light occipital spots of *A. grapiuna* allow its immediate distinction from *A. taczanowskyi* that has occipital spots being small and irregular in shape (see Fig. 24A, C, D in Curcio *et al.* 2012).

**Distribution:** Peru, Ecuador, east of the Andes in South America.

**Etymology:** Named in recognition of my daughter, Adelyn Hoser, aged 13 at the time of publishing this paper for numerous services to wildlife conservation, wildlife rescue and herpetology.

**NEW SUBGENUS PATTERSONBOA SUBGEN. NOV.**

**Type species:** *Tropidophis battersbyi* Laurent, 1949.

**Diagnosis:** The monotypic subgenus containing the

species *Adelynhoserboa battersbyi* Laurent, 1949 is separated from all other cogeners (subgenera) by the following suite of characters: (1) up to 200 ventrals (vs. 164-183 in *A. paucisquamis* and 146-160 in *A. taczanowskyi*); (2) 23 dorsals at midbody (vs. dorsals at midbody usually 21 or 23, rarely 25 in *A. paucisquamis*); (3) vertebral scale row not distinctly enlarged in size relative to remaining dorsals (vs. vertebral row usually enlarged in *A. paucisquamis*); (4) dorsals smooth (vs. dorsals sometimes feebly keeled in *A. paucisquamis* and strongly keeled in *A. taczanowskyi*); (5) interparietals present and well developed (vs. interparietals usually lacking, or small in size when present in *A. paucisquamis*); (6) parietals fully separated by interparietals (vs. parietals always in contact, even when interparietals are present in *A. paucisquamis*); (7) 12 maxillary teeth (vs. 15-19 in *A. paucisquamis* and 16-20 in *A. taczanowskyi*); (8) body spotted, dorsal spots large, rounded or elliptical, up to four scales in diameter (vs. dorsal spots diameter of approximately two dorsal scales in *A. paucisquamis* and *A. taczanowskyi*); and (9) six spot rows around the body, four on dorsum and two on venter (vs. eight spot rows around the body, six on dorsum and two on venter in *A. paucisquamis* and *A. taczanowskyi*) (Curcio *et al.* 2012).

Comparisons with other mainland *Adelynhoserboa*: The color pattern of *A. battersbyi*, with four dorsal rows of large and dark spots, is unique among all South American congeners. Ventral and subcaudal counts (200 and 41, respectively) are also distinctly high among mainland species, although *A. paucisquamis* may show comparable values for subcaudals. Finally, the original description mentions twelve maxillary teeth, a number that is considerably lower than those of all other mainland *Adelynhoserboa* (which is usually greater than sixteen) (Curcio *et al.* 2012).

**Distribution:** Ecuador in South America.

**Etymology:** Named in honour of Todd Patterson of near Ipswich in Queensland, Australia in recognition for many years of considerable effort and help behind the scenes doing herpetological research in Australia, including the largely unacknowledged assistance and fieldwork collecting specimens that has helped both myself and many Museum employees across Australia.

**SUBGENUS MERCEICABOA SUBGEN. NOV.**

**Type species:** *Ungalia paucisquamis* Müller, 1901.

**Currently most widely known as** *Tropidophis paucisquamis* (Müller, 1901).

**Diagnosis:** *Merceicaboa* subgen. nov. are separated from all other cogeners by having 21-23 mid body rows instead of 25-29 mid body rows in the others.

Also separated by the large number of maxillary teeth of around 19, as opposed to 12-15 in other species within the genus.

**Distribution:** Brazil in South America only.

**Etymology:** Named in honor of David Merceica, originally of Hillside and Bacchus Marsh in Victoria and more recently of the Sunshine Coast hinterland in Queensland, Australia in recognition of a lifetime spent working with reptiles in Australia.

Besides amassing a magnificent collection of live reptiles, Merceica has helped many others in their own

interests in reptiles, including the collecting, keeping and studying of the animals. Merceica's expertise has been relied upon by many authors of some of the best contemporary books on Australian reptiles and frogs.

Merceica is well-known here in Australia for putting a ratbag (former) Victorian wildlife officer Tony ("seize it") Zidarich in his place, when during a heavily armed raid by wildlife officers on the Merceica residence, David Mercieca punched Zidarich in the head and knocked him out.

Merceica's actions were totally justified in the circumstances and as a result of the incident, he now has a cult status among many victims of corrupt wildlife officers, these victims being innocent people with a love for animals who have been raided at the behest of business rivals who have an improper relationship with corrupt wildlife officers, a situation that is endemic in Australia, including Merceica's home state of Victoria.

#### **NEW SUBTRIBE TROPIDOPHIININA SUBTRIBE NOV.**

**(Terminal taxon: *Boa melanura* Schlegel, 1837)**

**Currently most widely known as *Tropidophis melanurus* (Schlegel, 1837)**

**Diagnosis:** The venters of *Adelynhoserboaiina Subtribe nov.* consist of black and yellow spots and bands (Stull, 1928). Such a pattern does not occur in any specimens within the subtribe *Tropidophiina Subtribe nov.* (Hedges 2002).

**Distribution:** The region of the West Indies.

**Content:** *Tropidophis* Bibron, 1843; *Leionotus* Bibron, 1840; *Jackyhoserboa gen. nov.* (this paper); *Wellingtonboa gen. nov.* (this paper); *Wellsboa gen. nov.* (this paper).

#### **GENUS TROPIDOPHIS BIBRON, 1840**

**Type species: *Boa melanura* Schlegel, 1837.**

**Currently most widely known as *Tropidophis melanurus* (Schlegel, 1837)**

**Diagnosis:** The genus *Tropidophis* Bibron, 1840 is separated from all other genera described within the subtribe *Tropidophiina Subtribe nov.* by the following suite of characters: 178-224 ventrals and 4-12 rows of paramedian blotches, which may at times be somewhat indistinct.

**Distribution:** Cuba, Bahamas, Grand Cayman, Little Cayman, Cayman Brac, Navassa Island.

**Content:** *Tropidophis melanurus* (Schlegel, 1837) (type species); *T. bucculentus* (Cope, 1868); *T. canus* (Cope, 1868); *T. caymanensis* Battersby, 1938; *T. curtus* (Garman, 1887); *T. parkeri* Grant, 1941; *T. schwartzi* Thomas, 1963.

#### **SUBGENUS TROPIDOPHIS BIBRON 1840.**

**Type species: *Boa melanura* Schlegel, 1837.**

**Currently most widely known as *Tropidophis melanurus* (Schlegel, 1837)**

**Diagnosis:** The genus *Tropidophis* Bibron, 1840 is separated from all other genera described within the subtribe *Tropidophiina Subtribe nov.* by the following suite of characters: 188-217 ventrals and 4-12 rows of paramedian blotches, which, depending on the species, may appear to be joined to form indistinct lines; the presence of 25-29 mid body rows, a dorsal color

including 4-12 paramedian blotches that may or may not be slightly enlarged on a tan to yellow ground color, but not distinctly pale, thus giving the snakes a either a prominently spotted pattern (*celiae*) or alternatively indistinct stripes made of discoloured scales (*melanurus*); the venter usually has a stippling pattern (*melanurus*) or none (*celiae*); and these snakes are further separated from some species in other subgenera in build in that these snakes are of a robust build (*celiae*) or slightly laterally compressed (*melanurus*).

**Distribution:** Cuba only.

**Content:** *Tropidophis (Tropidophis) melanurus* (Schlegel, 1837); *T. (Tropidophis) celiae* Hedges, Estrada, and Díaz, 1999.

#### **NEW SUBGENUS ESERABOA SUBGEN. NOV.**

**Type species: *Ungalia cana* Cope, 1868.**

**Currently most widely known as *Tropidophis canus* (Schlegel, 1837)**

**Diagnosis:** The subgenus *Eseraboa subgen. nov.* is separated from all other subgenera described within by the following suite of characters/ Median dorsals keeled, 170-190 ventrals, 6-8 rows of dorsal body blotches, 9/9 or 10/10 supralabials, 9/9 to 12/12 supralabials, 22-37 subcaudals, parietal contact is usually absent post oculars either 2/2, 2/3 or 3/3.

These two species within this subgenus, are further separated from all others within the genus by the presence of an anteriolateral (face and neck) stripe.

**Distribution:** Bahamas.

**Comment:** Currently two species are recognized within the subgenus, but there are a number of described subspecies within *Tropidophis (Eseraboa) canus* which may ultimately be elevated to full species status (Hedges 2002).

**Etymology:** Named in honour of the Esera family, including Patricia, Tolu, Dinah, Princefa and Andrew for their stellar work in wildlife conservation in Australia. Natives of the Pacific Island of Samoa, they have in the period leading up to 2013 established a thriving business chopping down feral Pine Trees *Pinus radiata* Don, 1836 in the city of Manningham, Victoria, Australia.

These non-native trees from North America are an invasive weed that have caused havoc and destruction to the local ecosystem on a massive scale.

With the express support of local, state and federal governments in Australia these trees have invaded pristine habitats and caused massive local extinctions of wildlife.

The Esera family, have done a spectacular job of ridding many areas of these invasive feral weeds in a bid to restore the original natural beauty to Australia, including the many native species who cannot survive in the dense dark pine forests they have now actively removed from a sizeable area. The hands-on model of wildlife conservation and habitat restoration by the Esera family has been an inspiration for many.

It also shows how the supposedly uncivilized natives from the Pacific Islands have been able to show the supposedly civilized Anglo-Saxons in Australia how to repair the environmental destruction they have caused in the last 2 centuries.

**Content:** *Tropidophis (Eseraboa) canus* (Cope, 1868)(type species); *T. (Eseraboa) curtus* (Garman, 1887).

**NEW SUBGENUS ROBERTULLBOA SUBGEN. NOV.**

**Type species:** *Tropidophis caymanensis* Battersby, 1938.

**Diagnosis:** Separated from the other subgenera by the following suite of characters: 191-212 ventrals, median dorsals keeled, dorsal body blotches in 4-12 rows, with the paramedian rows enlarged, 25-27 mid-body rows, supralabials 10/10, infralabials 12/12 or 13/13, preoculars 1/1, postoculars 3/3; the dorsal cephalic colour is a trapezoidal dark figure that is invaded by light stippling or broken into 2 or 3 disjunct shapes. There is a brown interocular bar and a dark brown lateral head stripe. The dorsal ground colour is light gray to orange tan, changing to cream below the sixth scale row. Dorsal spots average about 54-61 and are dark brown to black. The venter is cream uniform or with heavy irregular dark mottling or has small black spots over most of the undersurface. The tail tip is yellow to light green. The pattern is very sharp in juveniles, becoming obscure in adults.

**Distribution:** Grand Cayman, Little Cayman, Cayman Brac, (Cayman Islands).

**Etymology:** Named in honour of Robert Bull for his stellar work in wildlife conservation in Australia. One of the better Anglo Saxons in Australia, he is a rare breed with a strong conservation ethic.

Like the Esera family above, he too has worked to rid Victoria of feral non-native Pine Trees *Pinus radiata* Don, 1836.

In his case, he has done this for a period in excess of 20 years doing most of his work either alone or with only one or two others.

The non-native trees from North America are an invasive weed that have caused havoc and destruction to the local ecosystem on a massive scale.

With the express support of local, state and federal governments in Australia these trees have invaded pristine habitats and caused massive local extinctions of wildlife.

Robert Bull has done a spectacular job of ridding many areas of these invasive feral weeds in a bid to restore the original natural beauty to Australia, including the many native species who cannot survive in the dense dark pine forests they have now actively removed from a sizeable area.

The hands-on model of wildlife conservation and habitat restoration by Robert Bull has been an inspiration for many.

**Content:** *Tropidophis (Robertullboa) caymanensis* Battersby, 1938; *T. (Robertullboa) parkeri* Grant, 1941; *T. (Robertullboa) schwartzi* Thomas, 1963.

**NEW SUBGENUS RODWELLBOA SUBGEN. NOV.**

**Type species:** *Ungalia bucculenta* Cope, 1868.

**Currently most widely known as** *Tropidophis bucculentus* (Cope, 1868).

**Diagnosis:** Separated from all other subgenera by the following suite of characters: 183-186 ventrals, and the

venter with some spotting but not conspicuously so posteriorly. In all other obvious respects the monotypic subgenus would key out as *Tropidophis (Tropidophis) melanurus* (Schlegel, 1837)(see for subgenus *Tropidophis* above), a species it would be matter-of-fact identified as, were it not for the lower ventral count (no overlap) and the location where the species is known from.

**Distribution:** Known only from the USA controlled Navassa Island, which is overrun with marauding herds of goats. Four specimens of *T. (Rodwellboa) bucculentus* are known from this small island between Hispaniola and Jamaica, but apparently no snakes have been seen in over 100 years and thus the species is considered extinct (Powell, 1999).

**Etymology:** Named in honor of Aaron Rodwell, for his excellent work involving the sustainable use of wildlife in the Northern Territory, Australia including using unwanted crocodile meat for re-sale after being discarded by Crocodile breeding and treatment skin enterprises, and other uses of wildlife product for human benefit that would otherwise go to waste.

**Content:** *T. (Rodwellboa) bucculentus* (Cope, 1868).

**GENUS LEIONOTUS BIBRON, 1840.**

**Type species:** *Leionotus maculatus* Bibron, 1843.

**Diagnosis:** *Leionotus* are separated from all other genera within the tribe Tropidophiini by one or other of the four following suites of characters:

Dorsal body with 17-26 saddles on a pale ground colour and 217-235 ventrals, or:

Dorsal surface with 2 rows of small blotches on a pale ground color, vertebral stripe often present, 201-223 ventrals, 21-25 midbody scale rows, 34-41 subcaudals, slender build with a head distinct from the neck, or:

Dorsum of head without occipital spots, conspicuous dorsal pattern with small blotches in 8-10 rows, 189-208 ventrals, 23-27 midbody rows, or:

It has a buff ground color with 6 rows bold brown spots fused to form narrow zebra-like bands, especially around the mid-body, with a total of 38-39 body spots, 4-8 extra spots on the tail and a robust build. 32 midbody rows, 198-199 ventrals, spots on the venter.

**Distribution:** Cuba.

**Content:** *Leionotus maculatus* Bibron, 1843 (type species); *L. feicki* (Schwartz, 1957)

*L. morenoi* (Hedges, Garrido, and Díaz, 2001); *L. semicinctus* (Gundlach and Peters, 1864).

**NEW GENUS WELLSBOA GEN. NOV.**

**Type species:** *Boa pardalis* Gundlach, 1840.

**Currently most widely known as** *Tropidophis pardalis* (Gundlach, 1840).

**Diagnosis:** *Wellsboa gen. nov.* are separated from all other snakes in the tribe Tropidophiini by one of the following four suites of characters:

Dorsal scales in 23 (usually) or rarely 25 midbody rows, 136-172 ventrals, 23-34 subcaudals, postoculars 2/2 or 3/3; parietal scales may or may not contact; 6-8 rows of small dorsal body blotches, totalling about 25-46 blotches, dorsum of head may or may not have occipital spots; the venter has blotches (subgenus *Wellsboa*

*subgen. nov.*), or:

23-27 midbody rows, 160-185 ventrals, 1-2 preoculars, dorsum of head with occipital spots that may be fused to form a white collar, or otherwise may be faint, but present in one form or other; head may or may not be distinct from the neck; dorsal pattern may or may not be particularly conspicuous, and blotches are small and in 8-10 rows (subgenus *Wittboa subgen. nov.*), or:

21-25 midbody rows, 193-222 ventrals, 36-45 subcaudals, no vertebral stripe, small dorsal blotches in four rows on a pale ground color, slender body with a head distinct from the neck (subgenus *Wittboa subgen. nov.*), or:

25 midbody rows, 23 anterior scale rows, 19 posterior scale rows, around 190 ventrals, about 33 subcaudals, labials 10/10, scales 4 and 5 in contact with the eye, infralabials 11/11, preoculars 1/1, postoculars 3/3, separated parietal scales (by one scale); adult size usually under 30 cm, 10 rows of dorsal spots, numbering 48-52 body spots in total, with the mid dorsal ones in contact with one another, a blunt snout, lacking a dark stripe on side of head, and almost completely lacking ventral pigmentation, the belly being without blotches, body robust, head slightly expanded laterally and slightly distinct from the neck, dorsal scales are generally smooth with weak keeling slightly anterior to the vent, middorsal scale row is not enlarged, except for a few scales at posterior end of body and on tail (subgenus *Tonysilvaboa subgen. nov.*).

**Distribution:** Cuba.

**Etymology:** Named in honor of Australian reptile taxonomist Richard Wells, who's recent publications include a 361 page thesis on the Australian skink genus *Lerista* in 2012 (Wells 2012).

In response to this landmark publication, a bunch of nine truth haters, namely Hinrich Kaiser, Mark O'Shea, Wolfgang Wüster, Wulf Schleip, Paulo Passos, Hidetoshi Ota, Luca Luiselli, Brian Crother and Christopher Kelly, published a hate rant in a journal one of them edits (*Herpetological Review*), falsely claiming that the Wells paper and all his others were "unscientific" and "without evidence". Rather than arguing the merits of the paper which they have since admitted they have not even read (Schleip 2013a, 2013b), they called upon other herpetologists to "boycott" all the Wells papers and taxonomic judgements and then to steal his work and rename the species themselves (Hoser 2012, Kaiser 2012a, 2012b, Kaiser *et al.* 2013, Schleip *et al.* 2013a, 2013b and others).

Kaiser *et al.* (2013) also called for a similar boycott of all Hoser and Wells papers from 2000 to 2012 in violation of the zoological Code (Ride *et al.* 1999).

Their unethical and dishonest actions by these men who have also engaged in serious criminal conduct internationally are a direct breach of the rules of zoological nomenclature, often called "the Code" and breach the critically important rules of 1/ Homonymy (Principal 5, Article 52 and elsewhere), 2/ Priority (Principal 3, Article 23 and elsewhere) and 3/ Stability (Principal 4, Articles 23, 65 and elsewhere) as well as the ethics of the code in the Appendix.

To add to their contemptuous actions, Kaiser *et al.* did

themselves make hundreds of taxonomic changes and without presenting a shred of evidence to support their actions in the same so-called paper.

Many of the actions were reckless including for example their claim that *Costinisauria couperi* Wells was a *Lampropholis* species, when it was in fact a northern population of *Eulamprus kosciuskoi* (the original description makes it clear that the species was described from within what others consider *Eulamprus kosciuskoi*). For readers, like Kaiser *et al.* (2013) totally unfamiliar with these Australian species *Lampropholis* and *Eulamprus* belong to separate tribal groupings within the family Scincidae, Kaiser *et al.* have demonstrated by this evidence free taxonomic act that they have no idea what they are talking about when it comes to making an assignation of an Australian skink to the wrong tribe; *Cyrtodactylus abrae* is not a synonym of *Cyrtodactylus tuberculatus* as alleged by Kaiser *et al.* (this matter was dealt with by Shea in 2011, when designation of a neotype made the species a direct synonym of *Cyrtodactylus pulchellus*)

*Zeusius sternfeldi* is not a synonym of *Cyclodomorphus casuarinae*, as stated by Kaiser *et al.* but is most similar to *Cyclodomorphus venustus* (the population named *sternfeldi* was considered part of *venustus* when Shea described that species).

See Shea (2013a).

Schleip, Wüster and Crother are serial offenders when it comes to committing acts of grievous taxonomic misconduct in so-called journals they control and/or edit, through their many acts and publications engaging in mass-renaming of valid taxa in breach of the zoological rules and without a shred of evidence as a basis to do so. In terms of the gang of nine truth haters, the following points should be made:

- Hinrich Kaiser and eight other renegades, namely Mark O'Shea, Wolfgang Wüster, Wulf Schleip, Paulo Passos, Hidetoshi Ota, Luca Luiselli, Brian Crother and Christopher Kelly, herein cited as Kaiser *et al.* (2013) have made numerous demonstrably false claims about myself Raymond Hoser and Richard Wells.
- The claim by Kaiser *et al.* (2013) that Hoser's and Well's descriptions of taxa are unsupported by evidence is refuted by their other claims that Hoser and Wells had engaged in "harvesting of clades from published phylogenetic studies for description as new genera or subgenera" and used evidence "lifted from others".
- The papers and taxonomic decisions by Hoser and Wells are based on robust cited evidence and comply with the established rules of Zoological Nomenclature (Ride *et al.* 1999) of homonymy, priority and stability.
- Four of the authors, namely Kaiser, O'Shea, Wüster and Schleip have been exposed as serial liars (Hoser 2012).
- Schleip and Wüster have both been exposed for "Grievous taxonomic misconduct" by knowingly publishing descriptions of invalid taxa or junior synonyms and falsifying data (Hoser 2012).
- O'Shea, Wüster and Schleip have for 15 years engaged in a cynical destabilization of taxonomy and

nomenclature in breach of the rules, motivated by a deep personal hatred of Raymond Hoser and Richard Wells (Hoser 2012).

- Over time, Hoser and Wells taxonomic and nomenclatural judgments have been accepted as correct by other herpetologists as confirmed by molecular studies and their names widely used (millions of times)(e.g. *Broghammerus*, *Antaresia*).
- O'Shea, Wüster and Schleip have repeatedly committed the crime of plagiarism (Hoser 2012, Hoser 2009).
- Kaiser *et al.* have repeatedly misrepresented and misquoted the Zoological Code.
- Kaiser *et al.* have several times made an open call for others to act in breach of the numerous sections of the Rules of Zoological nomenclature including 1/ Homonymy (Principal 5, Article 52 and elsewhere), 2/ Priority (Principal 3, Article 23 and elsewhere) and 3/ Stability (Principal 4, Articles 23, 65 and elsewhere) and the ethics of the Code (Section A).
- Kaiser *et al.* seek to rename hundreds of validly named taxa in breach of the Zoological Rules, with no restriction on other authors or names they may later deem "unscientific" in order to rename taxa properly named by others.
- In an act of "taxonomic vandalism" and "evidence free taxonomy", as co-author of Kaiser *et al.*, Brian Crother did in 2012, change the names of over 100 species of lizard, none of which had ever been the subject of a phylogenetic study. In 2008, serial offender, Brian Crother did a mass renaming of valid taxa without a shred of evidence in a list he published (as sole listed author) and had the audacity to title as an "official list".
- The proposals of Kaiser *et al.* if acted upon would irreparably destabilize Zoological nomenclature.
- The proposals of Kaiser *et al.* (2013) if copied by others (as they suggested on page 20) would create general taxonomic and nomenclatural chaos and effectively destroy the rules of zoology.
- The proposals of Kaiser *et al.* if acted upon would potentially put lives at risk through misidentification of venomous taxa, including through excessive numbers of newly created invalid junior synonyms.
- The loophole within the Zoological rules proposed by Kaiser *et al.*, by which they see a means to rename hundreds of species and genera by alleged "reversal of priority" is flawed. This is because they misquoted the relevant section of Code omitting the key line, that relating to date of first descriptions usage needing to be prior to 1899, rendering the scheme "clearly ridiculous and unworkable" (Shea 2013b, 2013c).
- The use of the alleged loophole within the Zoological Rules proposed by Kaiser *et al.*, to unlawfully rename validly named taxa, subsequent to deliberate boycott of the correct names has been attempted before and failed. This included by Sprackland, Smith and Strimple (1997) (ICZN case 3043) and their scheme failed. The illegal attempt to reverse priority was emphatically rejected by the ICZN in their judgment, Opinion 1970. *Bulletin of Zoological Nomenclature* 58(1), 30 March 2001 in Volume 58 (ICZN 2001).

· Claims of support for Kaiser *et al.* by the authors of the paper have been shown to be false (Shea 2013b, 2013c).

· On the basis of the preceding, the assault on the established rules of zoological nomenclature by Kaiser *et al.* (2013) via an attack on eminent herpetologist Richard Wells (and myself) must be rejected by herpetologists. The gang of nine must be condemned for their gross misconduct.

· It is therefore fitting that a herpetologist who has spent a lifetime's work cataloguing and classifying Australia's reptiles, in the form of Richard Wells, now being unlawfully attacked by Kaiser *et al.* should have a genus of snakes named in his honor, especially when it is clear that the gang of nine thieves seek to steal his work and attempt to pretend that he never contributed anything to herpetology.

**Content:** *Wellsboa fuscus* (Hedges and Garrido, 1992); *W. galacelidus* (Schwartz and Garrido, 1975); *W. hardyi* (Schwartz and Garrido, 1975); *W. hendersoni* (Hedges and Garrido, 2002); *W. nigriventris* (Bailey, 1937); *W. pardalis* (Gundlach, 1840); *W. pilsbryi* (Bailey, 1937); *W. spiritus* (Hedges and Garrido, 1999); *W. wrighti* (Stull, 1928); *W. xanthogaster* (Dominguez, Moreno and Hedges, 2006).

#### **NEW SUBGENUS WELLSBOA SUBGEN NOV.**

**Type species:** *Boa pardalis* Gundlach, 1840.

**Currently most widely known as** *Tropidophis pardalis* (Gundlach, 1840).

**Diagnosis:** *Wellsboa subgen. nov.* are separated from all other snakes in the tribe Tropidophiini by the following suite of characters:

Dorsal scales in 23 (usually) or rarely 25 midbody rows, 136-172 ventrals, 23-34 subcaudals, postoculars 2/2 or 3/3; parietal scales may or may not contact; 6-8 rows of small dorsal body blotches, totalling about 25-46 blotches, dorsum of head may or may not have occipital spots; the venter has blotches.

*Wellsboa subgen. nov.* are separated from the other subgenera within the genus *Wellsboa gen. nov.* by one or other of the following three suites of characters:

23-27 midbody rows, 160-185 ventrals, 1-2 preoculars, dorsum of head with occipital spots that may be fused to form a white collar, or otherwise may be faint, but present in one form or other; head may or may not be distinct from the neck; dorsal pattern may or may not be particularly conspicuous, and blotches are small and in 8-10 rows (subgenus *Wittboa subgen. nov.*), or:

21-25 midbody rows, 193-222 ventrals, 36-45 subcaudals, no vertebral stripe, small dorsal blotches in four rows on a pale ground color, slender body with a head distinct from the neck (subgenus *Wittboa subgen. nov.*), or:

25 midbody rows, 23 anterior scale rows, 19 posterior scale rows, around 190 ventrals, about 33 subcaudals, labials 10/10, scales 4 and 5 in contact with the eye, infralabials 11/11, preoculars 1/1, postoculars 3/3, separated parietal scales (by one scale); adult size usually under 30 cm, 10 rows of dorsal spots, numbering 48-52 body spots in total, with the mid dorsal ones in contact with one another, a blunt snout, lacking a dark



stripe on side of head, and almost completely lacking ventral pigmentation, the belly being without blotches, body robust, head slightly expanded laterally and slightly distinct from the neck, dorsal scales are generally smooth with weak keeling slightly anterior to the vent, middorsal scale row is not enlarged, except for a few scales at posterior end of body and on tail (subgenus *Tonysilvaboa subgen. nov.*).

**Distribution:** Cuba.

**Etymology:** Named in honor of Australian reptile taxonomist Richard Wells. For detail, see the genus description above.

**Content:** *W. (Wellsboa) pardalis* (Gundlach, 1840)(type species); *W. (Wellsboa) galacelidus* (Schwartz and Garrido, 1975); *W. (Wellsboa) hardyi* (Schwartz and Garrido, 1975); *W. (Wellsboa) nigriventris* (Bailey, 1937); *W. (Wellsboa) spiritus* (Hedges and Garrido, 1999); *W. (Wellsboa) xanthogaster* (Dominguez, Moreno and Hedges, 2006).

#### NEW SUBGENUS WITTBOA SUBGEN. NOV.

**Type species:** *Tropidophis wrighti* Stull, 1928.

**Diagnosis:** *Wittboa subgen. nov.* are separated from other subgenera within *Wellsboa subgen. nov.* by the following suite of characters:

One or other of:

23-27 midbody rows, 160-185 ventrals, 1-2 preoculars, dorsum of head with occipital spots that may be fused to form a white collar, or otherwise may be faint, but present in one form or other; head may or may not be distinct from the neck; dorsal pattern may or may not be particularly conspicuous, and blotches are small and in 8-10 rows, or:

21-25 midbody rows, 193-222 ventrals, 36-45 subcaudals, no vertebral stripe, small dorsal blotches in four rows on a pale ground color, slender body with a head distinct from the neck.

*Wittboa subgen. nov.* are separated from the other subgenera within *Wellsboa subgen. nov.* by the following suites of characters:

One or other of:

Dorsal scales in 23 (usually) or rarely 25 midbody rows, 136-172 ventrals, 23-34 subcaudals, postoculars 2/2 or 3/3; parietal scales may or may not contact; 6-8 rows of small dorsal body blotches, totalling about 25-46 blotches, dorsum of head may or may not have occipital spots; the venter has blotches (subgenus *Wellsboa subgen. nov.*), or:

25 midbody rows, 23 anterior scale rows, 19 posterior scale rows, around 190 ventrals, about 33 subcaudals, labials 10/10, scales 4 and 5 in contact with the eye, infralabials 11/11, preoculars 1/1, postoculars 3/3, separated parietal scales (by one scale); adult size usually under 30 cm, 10 rows of dorsal spots, numbering 48-52 body spots in total, with the mid dorsal ones in contact with one another, a blunt snout, lacking a dark stripe on side of head, and almost completely lacking ventral pigmentation, the belly being without blotches, body robust, head slightly expanded laterally and slightly distinct from the neck, dorsal scales are generally smooth with weak keeling slightly anterior to the vent, middorsal scale row is not enlarged, except for a few scales at

posterior end of body and on tail (subgenus *Tonysilvaboa subgen. nov.*).

**Distribution:** Cuba.

**Etymology:** Named in honour of Sue and Robin Witt, Great Dane breeders of Heathcote, Victoria, Australia for their contributions to animal welfare in Australia spanning many decades.

**Content:** *W. (Wittboa) wrighti* (Stull, 1928)(type species); *W. (Wittboa) fuscus* (Hedges and Garrido, 1992); *W. (Wittboa) pilsbryi* (Bailey, 1937).

#### NEW SUBGENUS TONYLSILVABOA SUBGEN. NOV.

**Type species:** *Tropidophis hendersoni* Hedges and Garrido, 2002.

**Diagnosis:** *Tonysilvaboa subgen. nov.* are separated from the other subgenera within *Wellsboa* by the following suite of characters:

25 midbody rows, 23 anterior scale rows, 19 posterior scale rows, around 190 ventrals, about 33 subcaudals, labials 10/10, scales 4 and 5 in contact with the eye, infralabials 11/11, preoculars 1/1, postoculars 3/3, separated parietal scales (by one scale); adult size usually under 30 cm, 10 rows of dorsal spots, numbering 48-52 body spots in total, with the mid dorsal ones in contact with one another, a blunt snout, lacking a dark stripe on side of head, and almost completely lacking ventral pigmentation, the belly being without blotches, body robust, head slightly expanded laterally and slightly distinct from the neck, dorsal scales are generally smooth with weak keeling slightly anterior to the vent, middorsal scale row is not enlarged, except for a few scales at posterior end of body and on tail.

The other subgenera within *Wellsboa subgen. nov.* are separated from *Tonysilvaboa subgen. nov.* by the following character suites, being one or other of any of the three following suites:

Dorsal scales in 23 (usually) or rarely 25 midbody rows, 136-172 ventrals, 23-34 subcaudals, postoculars 2/2 or 3/3; parietal scales may or may not contact; 6-8 rows of small dorsal body blotches, totalling about 25-46 blotches, dorsum of head may or may not have occipital spots; the venter has blotches (subgenus *Wellsboa subgen. nov.*), or:

23-27 midbody rows, 160-185 ventrals, 1-2 preoculars, dorsum of head with occipital spots that may be fused to form a white collar, or otherwise may be faint, but present in one form or other; head may or may not be distinct from the neck; dorsal pattern may or may not be particularly conspicuous, and blotches are small and in 8-10 rows (subgenus *Wittboa subgen. nov.*), or:

21-25 midbody rows, 193-222 ventrals, 36-45 subcaudals, no vertebral stripe, small dorsal blotches in four rows on a pale ground color, slender body with a head distinct from the neck (subgenus *Wittboa subgen. nov.*).

**Distribution:** Cuba.

**Etymology:** Named in honour of Aviculture expert Tony Silva, wrongly jailed in the United States of America on trumped up charges.

**Content:** *Wellsboa (Tonysilvaboa) hendersoni* (Hedges and Garrido, 2002).

**NEW GENUS JACKYHOSERBOA GEN. NOV.**

Type species: *Ungualia* [sic] *haetiana* Cope, 1879

Widely known as of 2013 as *Tropidophis haetiana* (Cope, 1879)

**Diagnosis:** *Jackyhoserboa* gen. nov. are separated from all other Tropidophiini by the following suite of characters being one or other of the following:

25-27 midbody rows, 156-165 ventrals, 26-29 subcaudals, 9-10/9-10 supralabials, 9-12/9-12 infralabials, 1/1 preoculars; 2/2, 2/3 or 3/3 postoculars, parietals in contact; small dorsal body blotches in 8-10 rows, 27-49 in total and the snake has smooth dorsal scales, venter off-white to brown (*J. greenwayi*), or: 25-29 midbody rows, 166-194 ventrals, 30-39 subcaudals, parietal scales in contact or not, supralabials 9-10:9-10, infralabials 10-11:10-11, preoculars 1/1, postoculars 3/3; dorsal scales smooth or keeled, head or without a pair of occipital spots or blotches, dorsal colour is pale tan with small dorsal body blotches in 8-10 rows numbering 44-57 in total; these may fuse somewhat near the mid-body; the lowermost row of blotches may be reduced or absent; the upper surface of the head is brown and either unmarked or with an obscure rectangular figure; there's a sharp demarcation between head color and very pale supralabials; ventrals may be anything from white, yellow, tan or even dark brown, suffused with darker color; the chin and throat is whitish to brownish and either stippled or marked brownish (*J. haetiana*), noting however that taxa within the genus *Wellingtonboa* gen. nov. (below) would also key as this taxon (*J. haetiana*), but can in turn be separated by the following characters:

one of three of:

25 midbody rows, smooth dorsal scales, 167-181 ventrals, 9-10 supralabials, 9-11 infralabials, mid dorsal stripe absent, 10 rows of dorsal blotches at midbody on a chocolate brown ground color (*W. jamaicensis*), or:

25 midbody rows, dorsal scales smooth, 166-170 ventrals, 9-10 supralabials and 10 infralabials, mid dorsal stripe present, 10 longitudinal rows of obsolescent dorsal blotches on a consistently pale tan ground color; square-shaped head (*W. stullae*), or:

27 midbody rows, dorsal scales keeled, 182-190 ventrals, 10 supralabials, 11 infralabials, mid dorsal stripe present, 10 midbody rows of blotches on a slate yellowish-grey ground colour, with a pointed head (*W. stejnegeri*).

**Distribution:** Hispaniola (*J. haetiana*) and Caicos Islands (*J. greenwayi*).

**Etymology:** Named in honor of my younger daughter, Jacky Hoser, in recognition of a lifetime's work with wildlife and education of others about wildlife, reptiles in particular, the science and conservation of these animals, including by giving accurate and factual information.

This is particularly important in the present time as there is a huge amount of factually incorrect information being peddled by so-called wildlife and reptile educators, as well as by people masquerading as scientists both in Australia and elsewhere, some of which even puts lives at risk.

**Content:** *Jackyhoserboa haetiana* (Cope, 1879) (type species), *J. greenwayi* (Barbour and Shreve, 1935).

**NEW GENUS WELLINGTONBOA GEN. NOV.**

Type species: *Tropidophis haetianus jamaicensis* Stull, 1928.

Currently generally known as *Tropidophis jamaicensis* Stull, 1928.

**Diagnosis:** The snakes in the genus *Wellingtonboa* gen. nov. would normally key out as *Jackyhoserboa haetiana* (Cope, 1879), but are separated from this taxon by the following suite of characters, being one or other of the three following:

25 midbody rows, smooth dorsal scales, 167-181 ventrals, 9-10 supralabials, 9-11 infralabials, mid dorsal stripe absent, 10 rows of dorsal blotches at midbody on a chocolate brown ground color (*W. jamaicensis*), or:

25 midbody rows, dorsal scales smooth, 166-170 ventrals, 9-10 supralabials and 10 infralabials, mid dorsal stripe present, 10 longitudinal rows of obsolescent dorsal blotches on a consistently pale tan ground color; square-shaped head (*W. stullae*), or:

27 midbody rows, dorsal scales keeled, 182-190 ventrals, 10 supralabials, 11 infralabials, mid dorsal stripe present, 10 midbody rows of blotches on a slate yellowish-grey ground colour, with a pointed head (*W. stejnegeri*).

In turn *Jackyhoserboa haetiana* (Cope, 1869) is separated from all other snakes in the tribe Tropidophiini by the following suite of characters: 25-29 midbody rows, 166-194 ventrals, 30-39 subcaudals, parietal scales in contact or not, supralabials 9-10:9-10, infralabials 10-11:10-11, preoculars 1/1, postoculars 3/3.; dorsal scales smooth or keeled, head or without a pair of occipital spots or blotches, dorsal colour is pale tan with small dorsal body blotches in 8-10 rows numbering 44-57 in total; these may fuse somewhat near the mid-body; the lowermost row of blotches may be reduced or absent; the upper surface of the head is brown and either unmarked or with an obscure rectangular figure; there's a sharp demarcation between head color and very pale supralabials; ventrals may be anything from white, yellow, tan or even dark brown, suffused with darker color; the chin and throat is whitish to brownish and either stippled or marked brownish.

A middorsal stripe is present in *T. stejnegeri* and *T. stullae* but absent in *T. jamaicensis*. The head of *T. stejnegeri* is pointed but that of *T. stullae* is distinctly squared-shaped.

**Distribution:** Hispaniola and Caicos Islands.

**Etymology:** Named in honor of one of Australia's most knowledgeable reptile experts, Cliff Ross Wellington, now of Woy Woy in New South Wales, Australia.

He is best known for co-authoring several reptile landmark taxonomy publications with Richard Wells (see above) in the 1980's.

However Ross has been actively involved in herpetological research and education continuously for the periods both predating and postdating those publications and remains active in many areas of herpetology. He has also been pivotal in enacting educational programs for schools in terms of assisting biodiversity conservation.

**Content:** *Wellingtonboa jamaicensis* (Stull, 1928) (type species), *W. stejnegeri* (Grant, 1940), *T. stullae* (Grant, 1940).

**NEW TRIBE TRACHYBOAINI TRIBE NOV.****(Terminal taxon: *Trachyboa gularis* Peters, 1860)**

**Diagnosis:** *Trachyboa* resembles *Exiliboa* in having the nostril in an undivided nasal, and it possesses comparable numbers of ventrals and subcaudals. Most of the cephalic plates have been replaced by scales on *Trachyboa*, and it has 29 to 31 rows of scales at midbody. Moreover, well-developed hypapophyses are present on all vertebrae of *Trachyboa*; *Trachyboa* is an extremely rugose snake, adaptively specialized to forage on the surface (Bogert, 1968b), unlike the comparatively slender, smooth-scaled dwarf boas of genus *Tropidophis*, which at best are only slightly to moderately rugose.

**Distribution:** *Trachyboa* is an inhabitant of lowland forests in northern South America and Central America, in the area from Panama to Ecuador.

**Content:** *Trachyboa* Peters, 1860.

**FAMILY UNGALIOPHIIDAE****(Terminal taxon: *Ungaliophis continentalis* Müller, 1888)**

**Diagnosis:** See below for the diagnosis for the genus *Ungaliophis* Müller, 1888 which diagnoses both genera within the family and therefore doubles as a family description.

**Distribution:** Central America and the far north of South America.

**Content:** *Ungaliophis* Müller, 1888; *Exiliboa* Bogert, 1968.

**GENUS UNGALIOPHIS MÜLLER, 1888****Type species:** *Ungaliophis continentalis* Müller, 1888

**Diagnosis:** The following is adapted from Bogert (1968a, 1968b).

These snakes are relatively small boid-like snakes superficially similar to members of the family Boidae. *Ungaliophis* are known to attain maximum over-all dimensions (length) of 760 mm., with short prehensile tails comprising 0.85 to 0.95 per cent of total length. Trunk and tail are slightly compressed, head distinct from neck, spurs restricted to males. Diameter of eye greater than its distance from lip, pupil elliptical. Rostral either wider than high and separated from prefrontal by internasals, or nearly as high as wide and in contact with large, azygous prefrontal. Frontal smaller than prefrontal, bordered on each side by a preocular and a supraocular. Parietals vestigial or indistinguishable from dorsal scales. Two nasals; nostril invariably in anterior nasal. Loreal single; one preocular; two or three postoculars. From eight to 10 supralabials, two or three reaching eye, first two reaching postnasal. Tubercles present on all cephalic shields. Infralabials nine to 11, first pair in broad contact behind a moderately large mental, followed posteriorly by two or three pairs of chin shields.

Dorsal scales smooth, except for minute tubercles; midbody scale rows from 19 to 25, with reductions to 17 or 15 at vent. Addition and suppression of scale rows occurring between third and eighth rows anteriorly, by loss of paravertebral rows toward base of tail. Ventrals ranging from 204 to 258; anal plate undivided, from 39 to 46 single subcaudals; tail terminating in blunt spine. Hemipenes relatively long, bilobed; plicae on basal portion, calyces lacking crenate edges on lobes; sulcus spermaticus bifurcating near base, each branch of sulcus extending through plicate portion and calyces to terminus of lobe.

Premaxilla with an ascending process, without teeth.

Maxillary teeth 12 to 15, those at anterior end of bone larger and stouter than those behind them, which are progressively shorter posteriorly; palatine, five to eight; pterygoid teeth, 11 to 15; teeth on dentary, 13 to 15.

*Ungaliophis* (within the family: Ungaliophiidae) differs from Tropidophiidae in the presence of one large azygous prefrontal instead of one or two pairs of prefrontals. *Epicrates* Wagler, 1830 (Family Boidae) the only other boid-like genus found in the West Indies, differs in the presence of extremely long anterior teeth on both jaws, which is the same situation for the other true Boas (Boidae) of South and Central America.

Bogert (1968b) defined the genus *Exiliboa* as follows: A small, nearly unicolored, prehensile tailed boa, characterized by its possession of a large azygous internasal in broad contact with the rostral, and flanked on each side by a single nasal. This peculiar configuration of the scales readily distinguishes *Exiliboa* from *Ungaliophis* and from *Tropidophis*, all members of which have paired internasals and divided nasal plates. *Exiliboa* retains a pair of prefrontals in contrast to the azygous prefrontal of *Ungaliophis*, and the two pairs of prefrontals normally present on *Tropidophis*. The loreal is retained by *Exiliboa*, whereas it is absent from, or fused with the anterior prefrontal of, *Tropidophis*. The mental groove of *Exiliboa* is bordered by only three pairs of shields, but the groove is bordered by four scales in *Ungaliophis* and by four or five in *Tropidophis*. Furthermore, the female of *Exiliboa* differs from that of other dwarf boas in its retention of external vestiges of limbs.

In this description of *Exiliboa*, *Tropidophis* is treated as *sensu lato* and as recognized at the time (1968), therefore including all genera within the tribe Tropidophiini is defined herein.

**Content:** *Ungaliophis continentalis* Müller, 1888; *Ungaliophis panamensis* Schmidt, 1933.

**UNGALIOPHIS PANAMENSIS LOVELINAYI SUBSP. NOV.**

**Holotype:** A specimen from extreme south-western Nicaragua, Rio Misterioso, 17 kilometers inland from San Juan del Norte ("Greytown") on the Atlantic coast. at the United States National Museum of the Smithsonian Institution (USNM) specimen number No. 29215).

The United States National Museum of the Smithsonian Institution (USNM) is a government owned facility that allows its specimens to be examined by bona-fide scientists.

**Diagnosis:** *Ungaliophis panamensis lovelinayi* subsp. nov. is separated from the nominate form *Ungaliophis panamensis panamensis* by having 23 scale rows (as in the holotype) and rarely 25 as seen in at least one other specimen (Bogert, 1968a), whereas 21 are present in *Ungaliophis panamensis panamensis* and just 19 in the subspecies *Ungaliophis panamensis danieli* Prado, 1940. *Ungaliophis panamensis lovelinayi* subsp. nov. is further separated from both other subspecies by having 3-3 postoculars versus 2-2 in each of the other subspecies. *Ungaliophis panamensis* is separated from the similar species *Ungaliophis continentalis* by having angular as opposed to ovoid paravertebral blotches.

*Ungaliophis panamensis* is further separated from the similar species *Ungaliophis continentalis* by having internasals that meet on the suture behind the rostral, separating it from the prefrontal, whereas in *Ungaliophis*

*continentalis* the internasals are widely separated by broad contact of the rostral and azygous prefrontal.

**Distribution:** The three subspecies of *Ungaliophis panamensis* are also separated by distribution, with *Ungaliophis panamensis lovelinayi* subsp. nov. known from Nicaragua and northern Costa Rica, *Ungaliophis panamensis panamensis* from Panama and *Ungaliophis panamensis danieli* from Colombia.

**Etymology:** Named in honor of Tony Love-Linay of Taylor's Lakes Melbourne, Australia owner of Reconnect Communications from Albury/Wodonga in Australia and nearby areas in recognition of various services to wildlife conservation in Australia, through provision of telecommunication services, mechanical repairs and other logistical assistance's to the Snakebusters wildlife rescue and education business as well as similar logistic services to numerous other zoologists and wildlife rescue groups in south-eastern Australia.

#### REFERENCES CITED

- Alfoldi, J., Palma, F. D., Grabherr, M., Williams, C., Kong, L., Mauceli, E., Russell, P., Lowe, C. B., Glor, R. E., Jaffe, J. D., Ray, D. A., Boissinot, S., Shedlock, A. M., Botka, C., Castoe, T. A., Colbourne, J. K., Fujita, M. K., Moreno, R. G., ten Hallers, B. F., Haussler, D., Heger, A., Heiman, D., Janes, D. E., Johnson, J., de Jong, P. J., Koriabine, M. Y., Lara, M., Novick, P., Organ, C. L., Peach, S. E., Poe, S., Pollock, D. D., de Queiroz, K., Sanger, T., Searle, S., Smith, J. D., Smith, Z., Swofford, R., Turner-Maier, J., Wade, J., Young, S., Zadissa A., Edwards, S. V., Glenn, T. C., Schneider, C. J., Losos, J. B., Lander, E. S., Breen, M., Ponting, C. P. and Lindblad-Toh, K. 2011. The genome of the green anole lizard and a comparative analysis with birds and mammals. *Nature* 477:587-591.
- Baszio, S. 2004. *Messelophis variatus* n. gen. n. sp. from the Eocene of Messel: a tropidopheine snake with affinities to Erycinae (Boidae). *Courier-Forschungsinstitut Senckenberg* 252:47-56.
- Beddard, F. E. 1908. A Comparison of the Neotropical Species of *Corallus*, *C. cookii*, with *C. madagascariensis*; and some Points in the Anatomy of *Corallus caninus*. *Proc. Zool. Soc.* 135-155, text-figs. 21-27.
- Bibron, G. 1843. in Cocteau, J. T. and Bibron, G. 1838-1843, Reptiles: 1-143. in de la Sagra, R. *Historia Física, Política y Natural de la Isla de Cuba*. Arthus Bertrand, Paris.
- Bogert, C. M. 1968a. The Variations and affinities of the Dwarf Boas of the Genus *Ungaliophis*. *American Museum Novitates* 2340(9 August):26 pp.
- Bogert, C. M. 1968b. A New Genus and Species of Dwarf Boa from Southern Mexico. *American Museum Novitates* 2354 (December 18):38 pp.
- Boulenger, G. A. 1893. Catalogue of the snakes in the British Museum (Nat. Hist.) I. London (Taylor and Francis):448 pp.
- Brongersma, L. D. 1951. Some notes upon the anatomy of *Tropidophis* and *Trachyboa* (Serpentes). *Zoologische Mededelingen* 31:107-124.
- Burger, R. M. 2004. Dwarf boas of the Caribbean. *Reptilia* (GB) (35):43-47.
- Burnell, K. L., and Hedges, S. B. 1990. Relationships of West Indian *Anolis* (Sauria: Iguanidae): an approach using slow-evolving protein loci. *Caribbean Journal of Science* 26:7-30.
- Cannatella, D. C. and de Queiroz, K. 1989. Phylogenetic systematics of the anoles: is a new taxonomy warranted? *Systematic Zoology* 38:57-69.
- Chakrabarty, P. 2006. Systematics and historical biogeography of greater Antillean Cichlidae. *Molecular Phylogenetics and Evolution* (39)3:619-627.
- Cochran, D. M. 1941. The herpetology of Hispaniola. *Bull. US Natl. Mus.* 177:vii+398 pp.
- Conant, R. 1966. A second record for *Ungaliophis continentalis* from Mexico. *Herpetologica* 22:157-160.
- Cope, E. D. 1879. Eleventh contribution to the herpetology of tropical America. *Proc. Amer. Philos. Soc.* 18:261-277.
- Crutchfield, T. and Potts, R. 2011. Rare beauties: West Indian Dwarf Boas, *Tropidophis*. *Reptiles*, November.
- Curcio, F. F., Sales, P. M., Nunes, A., Argolo, J. S., Skuk, G. and Rodrigues, M. T. 2012. Taxonomy of the South American Dwarf Boas of the Genus *Tropidophis* Bibron, 1840, With the Description of Two New Species from the Atlantic Forest (Serpentes: Tropidophiidae). *Herpetological Monographs*: 26(1):80-121.
- Dunn, E. R. and Bailey, J. R. 1939. Snakes from the uplands of the Canal Zone and of Darien. *Bull. Mus. Comp. Zool.* 86:1-22.
- Etheridge, R. 1960. *The relationships of the Anoles (Reptilia; Sauria; Iguanidae); an interpretation based on skeletal morphology*. University of Michigan, Ann Arbor, Ann Arbor, Michigan, September 14.
- Fischer, J. G. 1888. Über eine Kollektion Reptilien und Amphibien von Hayti. *Jahrb. Hamburg. Wiss. Anst.* 5:23-45.
- Garman, S. 1887. On West Indian reptiles in the Museum of Comparative Zoology at Cambridge, Mass. *Proc. Amer. Philos. Soc.* 24:278-286.
- Guyer, C. and Savage, J. M. 1986. Cladistic relationships among anoles (Sauria: Iguanidae). *Systematic Biology* 35:509-531.
- Guyer, C. and Savage, J. M. 1992. Anole systematics revisited. *Systematic Biology* 41:89-110.
- Hass, C. A., Hedges, S. B. and Maxson, L. R. 1993. Molecular insights into the relationships and biogeography of West Indian anoline lizards. *Biochemical Systematics and Ecology* 21:97-114.
- Hedges, S. B. 2002. Morphological variation and the definition of species in the snake genus *Tropidophis* (Serpentes, Tropidophiidae). *Bull. nat. Hist. Mus. London (Zool.)* 68(2):83-90.
- Hedges, S. B. and Garrido, O. H. 1992. A new species of *Tropidophis* from Cuba (Serpentes: Tropidophiidae). *Copeia* 1992(4):820-825.
- Hedges, S. B. and Garrido, O. H. 2002. A new snake of the genus *Tropidophis* (Tropidophiidae) from eastern Cuba. *Journal of Herpetology* 36(2):157-161
- Hedges, S. B., Hass, C. A., and Maugele, T. K. 1989. Physiological color change in snakes. *Journal of Herpetology* 23(4):450-455.
- Henderson, R. W. and Schwartz, A. 1984. A guide to the identification of the amphibians and reptiles of Hispaniola. *Spec. Publ. Milwaukee Public Mus. Biol. and Geol.* (4):1-70.
- Hoser, R. T. 2009. Creationism and contrived science: a review of recent python systematics papers and the resolution of issues of taxonomy and nomenclature. *Australasian Journal of Herpetology* 2:1-34.

- Hoser, R. T. 2012. Robust taxonomy and nomenclature based on good science escapes harsh fact-based criticism, but remains unable to escape an attack of lies and deception. *Australasian Journal of Herpetology* 14:37-64.
- ICZN 2001. Opinion 1970. *Bulletin of Zoological Nomenclature* 58(1).
- Kaiser, H. 2012a. SPAM email sent out to numerous recipients on 5 June 2012.
- Kaiser, H. 2012b. Point of view. Hate article sent as attachment with SPAM email sent out on 5 June 2012.
- Kaiser, H., Crother, B. L., Kelly, C. M. R., Luiselli, L., O'Shea, M., Ota, H., Passos, P., Schleip, W. D. and Wüster, W. 2013. Best practices: In the 21st Century, Taxonomic Decisions in Herpetology are Acceptable Only When supported by a body of Evidence and Published via Peer-Review. *Herpetological Review* 44(1):8-23.
- Mattison, C. 2007. *The New Encyclopedia of Snakes*. Princeton University Press
- McDiarmid, R. W., Campbell, J. A. and Touré, T. A. 1999. *Snake species of the world*. Vol. 1. Herpetologists' League:511 pp.
- Mehrtens, J. M. 1987. *Living snakes of the world in color*. Sterling Publ. Co., New York, NY:480 pp.
- Poe, S. 1998. Skull characters and the cladistic relationships of the Hispaniolan dwarf twig *Anolis*. *Herpetological Monographs* :192-236.
- Poe, S. 2004. Phylogeny of anoles. *Herpetological Monographs*:37-89.
- Powell, R. and Incháustegui, S. J. 2009. Conservation of the herpetofauna of the Dominican Republic. *Applied Herpetology* 6:103-122.
- Nemuras, K. 1967. Notes on the herpetology of Panama: Part 4. Dry season in the tropics. *Bull. Maryland Herpetol. Soc.* 3:63-71, figs. 1-7.
- Nicholson, K. E., Crother, B. I., Guyer, C. and Savage, J. M. 2012. It is time for a new classification of anoles (Squamata: Dactyloidae). *Zootaxa* 3477:1-108.
- Powell, R. 1999. Herpetology of Navassa Island, West Indies. *Caribbean Journal of Science* 35:1-13.
- Prado, A. 1940. Outras serpentes da Colombia, com a descricao de uma nova especie de Boideo. *Mem. Inst. Butantan* 14:35-39, 1 pl.
- Ride, W. D. L. (ed.) *et al.* (on behalf of the International Commission on Zoological Nomenclature) 1999. *International code of Zoological Nomenclature*. The Natural History Museum - Cromwell Road, London SW7 5BD, UK (also commonly cited as "ICZN 1999").
- Savage, J. M. and Guyer, C. 1989. Infrageneric classification and species composition of the anole genera, *Anolis*, *Ctenonotus*, *Dactyloa*, *Norops* and *Semiurus* (Sauria: Iguanidae). *Amphibia-Reptilia* 10:105-115.
- Savage, J. M. and Guyer, C. 1991. Nomenclatural notes on anoles (Sauria: Polychridae): stability over priority. *Journal of Herpetology* 25:365-366.
- Savage, J. M. and Talbot, J. J. 1978. The giant anoline lizards of Costa Rica and western Panama. *Copeia*:480-492.
- Schleip, W. D. *et al.* 2013a. Posts on the Facebook wall of Wulf Schleip from 19 March 2013 to 7 April 2013.
- Schleip, W. D. *et al.* 2013b. Posts on internet chat forum at <http://www.pure-reptiles.de/index.php?page=Thread&threadID=1290> from 19 March 2013 to 9 April 2013.
- Schmidt, K. P. 1933. Amphibians and reptiles collected by the Smithsonian Biological Survey of the Panama Canal Zone. *Smithsonian Misc. Coll.* 89:1-20.
- Schwartz, A. 1975. Variation in the Antillean boid snake *Tropidophis haetianus* Cope. *Journal of Herpetology* 9(3):303-311.
- Schwartz, A. and Marsh, R. J. 1960. A review of the *pardalis-maculatus* complex of the boid genus *Tropidophis* of the West Indies. *Bull. Mus. Comp. Zool. Harvard* 123(2):49-84.
- Schwartz, A. and Henderson, R. W. 1991. *Amphibians and Reptiles of the West Indies*. University of Florida Press, Gainesville:720 pp.
- Shea, G. 2013a. Post on facebook on 20 March at: <http://www.facebook.com/glenn.shea.73?ref=ts&fref=ts#!/bryangrieg.fry?fref=ts>
- Shea, G. 2013b. Email to Raymond Hoser dated Fri, 8 Mar 2013 04:29:39 +0000.
- Shea, G. 2013c. Post on facebook at: <http://www.facebook.com/glenn.shea.73?ref=ts&fref=ts> on 8 March at 7.51 AM.
- Stull, O. G. 1928. A Revision of the Genus *Tropidophis*. *Occ. Pprs. Mus. Zool., Univ. Mich.* 195: 49 pp., pis. I-III.
- Stull, O. G. 1935. 1935. A Check List of the Family Boidae. *Proc. Boston Soc. Nat. Hist.* 40(8):387-408.
- Taylor, E. H. 1951. A brief review of the snakes of Costa Rica. *Univ. Kansas Sci. Bull.* 34:1-188, 7 figs., pls. 1-23.
- Tolson, P. J. and Henderson, R. W. 1993. *The Natural History of West Indian Boas*, R and A Publishing, UK:125 pp.
- Underwood, G. 1967. *A Contribution to the Classification of Snakes*. British Museum (Natural History), London.
- Underwood, G., 1976. A systematic analysis of boid snakes. In: d'Bellairs, A., Cox, C.B. (Eds.), *Morphology and Biology of Reptiles*. Academic Press, London:151-175.
- Wells, R. W. 2012. Some taxonomic and nomenclatural considerations on the Reptilia of Australia. A reclassification of the genus *Lerista* (Scincidae), including the descriptions of new genera. *Australian Biodiversity Record* 2012(1):1-361.
- Werner, F. 1921. Synopsis der Schlangenfamilie der Boiden auf Grundlage des Boulenger's-chen Schlangenkatalogs (1893/96). *Arch. Naturgesch.* 87(A):230-265, figs. 1-3.
- Wilcox, T. P., Zwickl, D. J., Heath, T. A. and Hillis, D. M. 2002. Phylogenetic relationships of the dwarf boas and a comparison of Bayesian and bootstrap measures of phylogenetic support. *Molecular Phylogenetics and Evolution* 25:361-371.

**CONFLICT OF INTEREST**

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