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A division of the Neotropical genus *Rhadinaea* Cope, 1863 (Serpentes:Colubridae).

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ABSTRACT

The Neotropical genus *Rhadinaea* had an unstable taxonomic history until 1974, when Myers (1974) defined the genus and subdivided it into eight well-defined species groups. Since then, three of these species groups have been moved to their own genera under the available names *Rhadinella* Smith, 1941, *Urotheca* Bibron, 1843 and *Taeniophallus* Cope, 1895, while the rest of the genus *Rhadinaea* as generally known has been neglected by taxonomists.

Relying on more recent molecular work on various species remaining within *Rhadinaea senso lato* and the original data of Myers and others, the remaining five species groups are herein subdivided into individual genera and three new subgenera. The genus groups are *Rhadinaea* for the *vermiculaticeps* group, and four new genera named and defined according to the Zoological Code. These are *Alexteesus* gen. nov. for the *flavilata* group, *Wallisserpens* gen. nov. for the *decorata* group, *Robvalenticus* gen. nov. for the *taeniata* group and *Barrygoldsmithus* gen. nov. for the taxon *calligaster*.

The taxon *pulveriventris* is placed in a subgenus namely *Desmondburkeus* subgen. nov. within *Rhadinaea*. The taxon *laureata* is placed in a subgenus *Dudleyserpens* subgen. nov. within *Alexteesus* gen. nov.. The genus *Wallisserpens* gen. nov. is divided into two species groups with a subgenus *Jockpaullus* subgen. nov. erected to accommodate four taxa.

Keywords: Taxonomic revision; new genera; genus; subgenus; *Alexteesus*; *Wallisserpens*; *Robvalenticus*; *Barrygoldsmithus; Rhadinaea*; *Rhadinella*; *Taeniophallus*; *Urotheca*; *Desmondburkeus*; *Dudleyserpens; Jockpaullus.*

INTRODUCTION

The Neotropical colubrid genus *Rhadinaea* had an unstable taxonomic history until 1974, when Myers (1974) defined the genus and subdivided it into eight well-defined species groups.

This lack of revisitation of this group of snakes is due largely to the excellent and clear manner in which Myers defined the genus, the species groups within and on the basis of the taxonomic judgments that followed from this, presumed by most others to be correct.

Notwithstanding this, since then, three of these species groups have been moved to their own genera under the available names.

These are *Rhadinella* Smith, 1941, currently accommodating 15 species, *Urotheca* Bibron, 1843, currently accommodating 8 species and *Taeniophallus* Cope, 1895, currently accommodating nine species.

As mentioned already, the remainder of the genus, now down to the five defined species groups has remained effectively unchanged since 1974.

Notably and in terms of each of the 8 species groups defined by

Myers and his taxonomic judgments in 1974 he wrote: "It would be possible to make a case for according separate generic status to some of these assemblages, but, considering the present state of colubrid systematics, I think it would only confuse rather than clarify relationships. The *godmani* group, for example, is quite distinctive, but its transfer out of *Rhadinaea* would remove a geographic, and seemingly phylogenetic, nucleus to which the other groups can be related (fig. 51). Without the *godmani* group, in fact, the whole scheme seems to fall apart, with little or no evidence of monophyly to hold the remaining groups together. Removal of any of the other groups would not cause so much of a problem, and it is conceivable that new interpretations or evidence might necessitate reducing (or increasing) the size of the genus."

The significance herein is that by 2011, the centrally important *godmani* group was transferred out of *Rhadinaea* by Myers himself, leaving the remainder of the genus as a group with little good evidence of monophyly.

This 2011 act followed earlier acts partitioning the genus as defined by Myers in 1974.

These included published studies by Cadle (1984a, 1984b, 1984c and 1985) which showed that *brevirostris* group species were immunologically more similar to "South American xenodontines" (i.e., Xenodontinae) than to "Central American xenodontines" (i.e., Dipsadinae). As a result, Myers and Cadle (1994) resurrected Cope's genus *Taeniophallus* for the *brevirostris* species group, which was further revised by Schargel et. al. (2005) and moved into the new Xenodontine tribe Echinantherini by Zaher et al. (2009).

The other group to be removed from *Rhadinaea* was the *lateristriga* group, characterized in part by a distinctive striped color pattern. However, in hemipenes and in the very long, disproportionately thick tail (see Myers 1974, Fig 5), the group was noted to share significant character states with the vividly ringed *Pliocercus*, leading to the statement by Myers that "it might be easier to show an ancestral-descendent relationship [with *Pliocercus*] than to convincingly demonstrate [relationship] with the other species groups of *Rhadinaea"* (Myers, 1974:230). Cadle (1984b: 28) also mentioned this as a case of interest after pointing out that immunological data suggested that "Central American *Rhadinaea* may be paraphyletic."

Hence Myers agreed when Savage and Crother (1989) resurrected *Urotheca* for the *lateristriga* group.

Of note is the continued disagreement in terms of whether or not the snakes in the genus *Pliocercus* should have been merged with *Urotheca*. Solórzano (2004) also agreed that the merging of the genera was likely to have been in error.

Another taxon, namely "*Rhadinaea obtusa*" is the type species for the genus *Psomophis*, erected by Myers and Cadle, 1994 to accommodate that and two other species (mis) placed in other genera, all most likely to be confused with species in the genus *Taeniophallus* (previously the *Rhadinaea brevirostris* group).

The lack of monophyly of the remainder of *Rhadinaea* was confirmed in part by the molecular results of Pyron et. al. (2011) who published results that showed the taxa *fulvicittus* and *flavilata* to be sufficiently divergent to warrant them being placed in their own separate genera if compared to other taxa subdivided between genera.

As a result, of the preceding series of events and the obvious morphological and biological differences between the various defined species groups, it becomes a matter of when, rather than if, these groups should be assigned their own genera.

This is done according to the Zoological Code (Ride et. al. 2009) below.

Key publications of note in terms of *Rhadinaea senso lato* include the following: Allen (1932), Amaral (1930), Auth et. al. (1999), Bailey (1937, 1940), Bauer et. al. (1995), Boulenger (1896), Canseco-Marquez et. al. (2000), Chaney and Liner (1986), Conant and Collins (1991), Cope (1860, 1864, 1871, 1877, 1886), Dixon and Lemos-Espinal (2010), Dugeès (1888), Dunn and Bailey (1939), Enge (1994), Flores-Villela (1993), Garcia and Quijano (1994), García-Vázquez et. al. (2009), Günther (1858, 1868, 1885), Hallermann (1998), Irwin et. al. (1993), Jan (1866), Liner (1994, 1996, 2007), Liner and Chaney (1987), Malnate (1939), McCranie (2011), Myers and Cadle (2003), Nelson (1994), Netting (1936), Nieto-Montes and Mendelson (1997), Pérez-Higareda et. al. (2002), Peters (1863), Peters et. al. (1970), Peterson et. al. (2004), Ramierez-Bautista (1998), Rossman (1965), Sauvage (1884), Savage (2002), Schmidt and Shannon (1947), Smith (1942a, 1942b, 1944), Smith and Langebartel (1949), Taylor (1949, 1951), Vázquez-Díaz (1999, 2005), Villa et. al. (1988), (Walley (1998), Whiteman et. al. (1995) and Zaldivar-Riverón and Pérez-Ramos (2001).

In terms of diagnoses of relevant genera, the following points should be noted. Genera *Rhadinaea* Cope 1863, *Rhadinella* Smith, 1941, *Urotheca* Bibron, 1843 and *Taeniophallus* Cope, 1895, have all been defined by several authors previously and these are relied upon for the purposes of this paper. The best diagnoses for each genus group are probably the most recent detailed ones published. These are: Myers (2011) for *Rhadinella* Smith, 1941; Savage and Crother (1989) and Myers (1974) for *Urotheca*, noting Myers (1974) effectively defined the genus under the title of the *lateristriga* group; and Myers and Cadle (2004), Schargel et al. (2005) and Myers (1974) for *Taeniophallus* Cope, 1895, noting Myers (1974) effectively defined the genus under the title of the *brevirostris* group.

Material provided herein is supplementary to this earlier published material.

The genus *Rhadinaea* Cope, 1863 as defined below would as a matter of course include those genera named for the first time within this paper. The definitions for each would as a matter of course remove those species from *Rhadinaea* Cope, 1863 and should therefore be treated as part of the description of *Rhadinaea* Cope, 1863 within this paper.

GENUS *RHADINAEA* COPE, 1863

Type species: *Taeniophis vermiculaticeps* Cope, 1860

Diagnosis: The genus is defined "senso lato" and including the new genera below as well as *Rhadinella* Smith, 1941, *Urotheca* Bibron, 1843 and *Taeniophallus* Cope, 1895, by the following suite of characters: Largely adapted from Myers (1974), the genus *Rhadinaea* is comprised of small to medium-sized snakes (maximum total lengths from under 300 mm. to about 900 mm., usually 400-600 mm.), of relatively slender proportions, with head slightly distinct from the neck, and with short to long tails (14-48 percent of total length). They are mostly some shade of brown above, some species being nearly unicolor but most having black or dark brown lines or stripes that extend the length of the body, fading or not on the tail. Small to medium-sized, terrestrial colubrids allied to *Taeniophis vermiculaticeps* Cope. Hemipenes symmetrical, distally calyculate, usually capitate, single or slightly bilobate (lobes entirely calyculate and contained in single capitulum), spinose; sulcus spermaticus bifurcate. Posterior vertebral hypapophyses absent. Pupil round. Enlarged rear maxillary teeth present, but rarely grooved. Full complement of colubrid head plates, most bearing minute scale organs (tubercles). Dorsal scales in 15, 17 (usually), 19, or 21 rows, without posterior reduction in most species, rarely with keels or apical pits; anal ridges present or not.

Usually brown with darker lines or stripes extending length of body. Head and neck usually with distinctive markings (e.g., pale temporal and canthal lines, ocelli, nuchal spots or collar, dark stripe through eye, or dark-edged pale stripe from eye to corner of mouth).

Coniophanes, *Conophis*, and *Tachymenis* differ from *Rhadinaea* in having a combination of grooved fangs and posterior scale-row reduction. *Leimadophis*, *Liophis*, *Lygophis* (sensu stricto), and *Umbrivaga* differ absolutely in presence of apical discs and

absence of calyces on hemipenis, and in general tendencies toward different color patterns (e.g., crossbands, anterior blotches and posterior stripes, dark-checkered venters). *Alsophis* and *Saphenophis* differ in having lobes of hemipenis noncapitate or semicapitate, lobes being not entirely calyculate and not confined within single capitulum, and in tendency toward larger body size and different color patterns. *Trimetopon* (sensu strict) differs in tendency toward *Tantilla*-like habitus and smaller size (maximum known total length less than 300 mm. in all *Trimetopon* but only some *Rhadinaea*), tendency toward loss of calyces and elimination of capitation of hemipenis, fewer maxillary teeth (less than 14 in all *Trimetopon* but only four *Rhadinaea*), and in general tendency toward fewer dorsal scale rows and fusion of prefrontals or other head plates. *Amastridium* differs in having a projected supraocular region partly concealing top of eye and in presence of hypapophyses on posterior vertebrae. South American *Tantilla*, sometimes confused with *Rhadinaea*, are readily distinguishable by combination of 15 scale rows, no loreal, and grooved fangs. West Indian Xenodontines (Maglio, 1970) formerly in *Dromicus* differ in various details, especially of the hemipenis (including more deeply forked sulcus, *Alsophis*-like structure of some [see above], apical projections of others).

The species of *Rhadinaea* are terrestrial snakes and are principally diurnal. Some are quite secretive and perhaps even semifossorial, but most are probably active foragers of the forest floor, where they are predators on small amphibians (including eggs) and lizards. All are oviparous.

The genus *senso lato* as defined by Myers 1974 is found in an arc from the Florida panhandle and nearby areas, with a gap in the south-west USA and then more-or-less continuously from Mexico to South America and including most of the northern half of the continent.

In terms of the new diagnosis for the genus *senso stricto* incorporated herein these snakes are separated from the existing genera *Rhadinella* Smith, 1941, *Urotheca* Bibron, 1843 and *Taeniophallus* Cope, 1895, and the five new genera diagnosed below by the following suite of characters: Scutellation is generalized; a subpreocular is present or absent. A broad middorsal dark stripe, or at least the hint of one in some individuals, in many cases encloses a paler vertebral line. The dark stripe diverges on the nape and, in two species (*R. sargenti* and *R. vermiculaticeps*), takes part in formation of a conspicuous, dark-edged, pale reticulum atop the head. There are only three species within this redefined genus, the third being *R. pulveriventris.*

They inhabit wet montane and hill forest from northern Costa Rica to central Panama.

Content of Genus *Rhadinaea* Cope, 1863

Rhadinaea vermiculaticeps Cope, 1860, (Type species), Common name: Vermiculate Graceful Brown Snake.

Rhadinaea pulveriventris Boulenger, 1896, Common name: Common Graceful Brown Snake.

Rhadinaea sargenti Dunn and Bailey, 1939, Common name: Sargent's Graceful Brown Snake.

SUBGENUS *DESMONDBURKEUS* SUBGEN. NOV.

Type species: *Rhadinaea pulveriventris* Boulenger, 1896

Diagnosis: In the two species remaining within the subgenus *Rhadinaea* the hemipenis has virtually straight spines, a basal naked pocket, and only soft papillae (no spinules) on the calyces. In the taxon *pulveriventris* the hemipenis lacks the unusual character of "virtually straight spines" seen in the other two species.

In the species *R. sargenti* and *R. vermiculaticeps* there is a broad mid-dorsal dark stripe, or at least the hint of one in some individuals and in many cases encloses a paler vertebral line. The dark stripe diverges on the nape and in *R. sargenti* and *R. vermiculaticeps* takes part in formation of a conspicuous, dark-edged, pale reticulum atop the head. This is not the case in the *Desmondburkeus* subgen. nov.

In *Desmondburkeus* subgen. nov. a median black streak extends forward a short distance on the neck and expands and bifurcates at the nape. Such a marking is found in no other species of *Rhadinaea* (*sensu-stricto* or *sensu-lato*).

In this subgenus a black stripe on the side of the head extends posteriorly as a diffused or narrow line along the side of the body. There is little or no indication of a vertebral stripe along most of the body, which is nearly uniformly brown. Some individuals have dark-speckled venters. The dorsal scales are in 17-17-17 rows, and there are sometimes weak anal ridges. Ventrals are 119-134 (119-124, males; 124-134, females), and subcaudals are 63-80 (71-80, males; 63-70, females). There are eight supralabials and a variable number of infralabials, usually 10 but ranging from eight to 11. There is one preocular, no subpreocular, two postoculars, and 1+2 temporals (rarely 1+1+2). The body is nearly uniform brown for its length. A short, median black streak extends anteriorly on the neck and widens and bifurcates at the nape, producing on each side a short branch, the lower edge of which may continue as a thin line to the posterodorsal edge of the eye. The black streak on the neck is three rows of scales wide, but the middle (vertebral) row is in some cases brown like most of the body. The black streak fades behind the neck, although on some specimens it re-forms as a dark vertebral line on the end of the body and base of the tail.

A black line across the rostral widens to form a black stripe that extends through the eye and crosses the corner of the mouth. This stripe then slants up to the neck and extends along the side of the body as either a black line on the adjacent edges of rows 4 and 5 or as a diffused line covering row 4 (and occasionally the top of row 3). A conspicuously pale brown or whitish stripe extends from the upper rear edge of the eye to the side of the neck, between the dorsal and lateral black stripes. The top of the head is uniform brown like the ground color of the body. The lateral black stripe edges the tops of the anterior supralabials and crosses the last two; otherwise the supralabials are white, being either immaculate or with a few black dots. Ventral surfaces are whitish, varying from immaculate to being heavily dotted with black; some individuals have slight concentrations of blackish pigment on the tips of the ventrals and subcaudals.

Body is golden brown with a yellowish tinge on lowest two scale rows. Supralabials pinkish white. Underside of head and throat white, turning slightly yellowish on the ventral surfaces posteriorly. Iris deep reddish brown, turning pale reddish tan on the extreme upper part. Tongue is typically reddish brown with black tips. The postocular light stripe, is pale brown, almost whitish.

There are 18+2, rarely 19+2 teeth on a maxilla. The ultimate prediastemal tooth is either anterior or posterior to the front edge of the ectopterygoid process.

The last fang is offset laterad.

Distribution: This subgenus is monotypic for the species *pulveriventris* and restricted to Central Costa Rica, in the Cordillera Central, and in the Cordillera de Talamanca to extreme western Panama. Known elevations are 1372-1600 meters and the habitat, at least in Panama, is lower montane rain forest (Myers 1974).

Etymology: Named in honor of Desmond (Des) Burke of Fairfield, Victoria, Australia and more recently Pascoe Vale, Victoria, for various services to herpetology in Australia and other largely unrecognized work he has done to improve the welfare of animals, as well as his excellent skills in breeding rats.

GENUS *ALEXTEESUS* GEN. NOV.

Type species: *Dromicus flavilatus* Cope, 1871

Diagnosis: *Alexteesus* gen. nov. is defined as containing the two species taxa formerly known as *Rhadinaea flavilata* and *R.*

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laureata.

The new genus *Alexteesus* gen. nov. is defined and separated from all other *Rhadinaea senso lato* (including those diagnosed and defined within this paper) by the following combination of characters: The branches of the sulcus spermaticus are of unequal length and a basal naked pocket is present on the unbilobated hemipenis. There are normally seven supralabials and a subpreocular is usually absent. Body coloration tends toward golden brown, and there has been great reduction in the intensity of dark stripes, which are diffused or even absent. Specimens from some populations of *A. flavilata* resemble *A. laureata* in having the lips intensely peppered with dark pigment, which gives an appearance seen elsewhere only in *Urotheca fulviceps* (identified in the past as part of the *lateristriga* group).

Alexteesus flavilata occurs from coastal regions in the southeastern United States and *A. laureata* from elevations of about 1500-3100 meters in the mountains west and south of the Mexican Plateau. The apparent relationship of these species was recognized by Malnate (1939), Bailey (1940), and Myers (1967) on the basis of features of the color pattern and number of supralabials.

A. laureata is sufficiently differentiated from *A. flavilata* to be further placed within its own nomotypic subgenus which is defined and named below.

Etymology: Named in honour of Alex Tees, who works in Sydney, NSW, Australia, as a lawyer who is unusual among lawyers in that money is not the only thing that motivates his activities. He was worked with a number of corruption whistleblowers on a pro-bono (labor for free) basis solely in the public interest, including on a number of important environmental law cases in Australia, fighting against corruption, tyranny and ecological destruction by public servants within the Australian government.

He played an important role in the “unbanning” of the book *Smuggled-2: Wildlife Trafficking, Crime and Corruption in Australia* in 1996 (Hoser 1996). It was only as a result of this book being un-banned and subsequently becoming a best-seller that State Governments across Australia had to lift decades old bans on the rights of private individuals to keep reptiles in captivity as pets.

Without the efforts of Tees and the other lawyers who assisted also on a “pro-bono” basis, notably Clive Evatt and Michael Rollinson, the entire print run of *Smuggled-2* would have been pulped and it would now be illegal for most if not all private citizens in Australia to be able to keep live reptiles in captivity.

SUBGENUS *DUDLEYSERPENS* SUBGEN. NOV.

Type species: *Dromicus laureates* Günther, 1868

Diagnosis: This monotypic subgenus is easily separated from taxon *Alexteesus flavilata* by the dramatically lower ventral scale count and subcaudal count in both sexes.

For *A.* (*Dudleyserpens*) *laureata* males have 112-134 ventrals (versus 150-167 in *A. flavilata*) and females have 118-139 ventrals (versus 160-176 in *A. flavilata*).

For *A.* (*Dudleyserpens*) *laureata* males have 68-83 subcaudals (versus 86-97 in *A. flavilata*) and females have 59-75 subcaudals (versus 73-92 in *A. flavilata*).

Interestingly both species within *Alexteesus* have tails of similar length when expressed as a percentage of the total length (see Myers 1974).

A. (*Dudleyserpens*) *laureata* is separated from *A. flavilata* by having a distinct darkish coloured mid-dorsal stripe running down the body of about 3 scales width.

A. (*Dudleyserpens*) *laureata* is found from elevations of about 1500-3100 meters in the mountains west and south of the Mexican Plateau.

Alexteesus flavilata is separated by distribution as it only occurs from coastal regions in the southeastern United States.

Etymology: Named in honor of Alex Dudley, formerly of Kenthurst, NSW, Australia but who has over the past 40 years resided at many locations and made an enormous but largely unrecognized contribution to Australian herpetology ongoing throughout most if not all that period.

Content of *Alexteesus* gen. nov.

Alexteesus flavilata (Cope, 1871) (Type species), Common name: Pine Woods Snake.

Alexteesus (*Dudleyserpens*) *laureata* (Günther, 1868), (Type species for subgenus), Common name: Crowned Graceful Brown Snake.

GENUS *WALLISSERPENS* GEN. NOV.

Type Species: *Coronella decorata* Günther, 1858

Diagnosis: The eleven species within this genus are separated from all other genera within *Rhadinaea senso lato* (including those diagnosed and defined within this paper) by the following suite of characters: The hemipenis is single and without special features (see table 2 Myers 1974). There is normally a subpreocular, and anal ridges are usually present on adult males. The body is variably striped or lined, but there is invariably at least a hint of a narrow, linear dark marking involving row 4 or 5, and this in some cases is bordered above by a pale streak or series of small pale spots. There is invariably a conspicuous, pale postocular marking extending from, or lying a short distance behind, the upper rear edge of the eye; this marking may be in the form of an ocellus or wedge, but in most species it is a broken or single line, which is in some cases confluent with a pale stripe on the side of the neck. The line may extend horizontally toward the neck or obliquely toward the corner of the mouth. These are prettily striped little snakes, but they are rather generalized and lack special features of the kind that set off other species groups of *Rhadinaea*.

The species *quinquelineata, montana*, *gaigeae* and *forbesi* forms one subgroup, herein defined as the subgenus *Jockpaullus* subgen. nov., and is characterized by a tendency for a pale grayish stripe or streak (absent in *forbesi*) on each side of a well-defined vertebral dark line. Often there is a short white line on the midline of the nape, in front of the vertebral dark line. Except for *forbesi*, there is a tendency for a relatively high number of ventrals and lack of encroachment of the dorsal ground color onto the ventral tips, which, however, may be dotted or spotted with dark pigment.

The nominate subgenus includes the remaining seven species which form another natural subgroup, but it is less well defined: They exhibit a tendency toward interruption and loss of the vertebral dark line (except in *hesperia*). There are lower numbers of ventrals than in the other subgroup, and often the lower sides (below the lateral dark line on row 4 or 5) are somewhat of a darker hue than the rest of the body.

Distribution: The species *decorata* ranges from San Luis Potosi Mexico to Ecuador, but the others within the genus are exclusively Mexican, occurring mainly in the area of the Sierra Madre Oriental to the Sierra Madre del Sur.

Etymology: Named in honor of Greg Wallis, formerly of Seaforth, NSW, Australia and more recently of Caulfield (Melbourne), Victoria, Australia, for contributions to herpetology in Australia spanning over 40 years.

Content: *Wallisserpens* gen. nov.

Wallisserpens decorata (Günther, 1858) (Type species), Common name: Adorned Graceful Brown Snake.

Wallisserpens bogertorum (Myers, 1974), Common name: Oaxacan Graceful Brown Snake.

Wallisserpens cuneata (Myers, 1974), Common name: Veracruz Graceful Brown Snake.

Wallisserpens forbesi (Smith, 1942), Common name: Forbes’ Graceful Brown Snake.

Wallisserpens gaigeae (Bailey, 1937), Common name: Gaige’s Pine Forest Snake.

Wallisserpens hesperia (Bailey, 1940), Common name: Western Graceful Brown Snake.

Wallisserpens macdougalli (Smith and Langebartel, 1949), Common name: MacDougall's Graceful Brown Snake.

Wallisserpens marcellae (Taylor, 1949), Common name: Marcella's Graceful Brown Snake.

Wallisserpens montana (Smith, 1944), Common name: Nuevo Leon Graceful Brown Snake.

Wallisserpens myersi (Rossman, 1965), Common name: Myers' Graceful Brown Snake.

Wallisserpens quinquelineata (Cope, 1886), Common name: Pueblan Graceful Brown Snake.

SUBGENUS *JOCKPAULLUS* SUBGEN. NOV.

Type species: *Rhadinaea quinquelineata* Cope, 1886

Diagnosis: The species *quinquelineata, montana*, *gaigeae* and *forbesi* forms the subgenus *Jockpaullus* subgen. nov., and is separated from the nominate subgenus by a tendency for a pale grayish stripe or streak (absent in *forbesi*) on each side of a well-defined vertebral dark line. Often there is a short white line on the midline of the nape, in front of the vertebral dark line. Except for *forbesi*, there is a tendency for a relatively high number of ventrals and lack of encroachment of the dorsal ground color onto the ventral tips, which, however, may be dotted or spotted with dark pigment.

W. forbesi is characterized by a sharply inclined white line, extending from the upper rear edge of the eye to behind the corner of the mouth (sometimes fusing with the pale throat color or with a white line on the side of the neck). *W. forbesi* lacks a white line across the nape.

It has a bold color pattern on the body, including usually a wide, vertebral dark line and conspicuously dark ventral tips.

The nominate subgenus includes the remaining seven species and form another natural subgroup, but it is less well defined: They exhibit a tendency toward interruption and loss of the vertebral dark line (except in *hesperia*). There are lower numbers of ventrals than in the other subgenus, and often the lower sides (below the lateral dark line on row 4 or 5) are somewhat of a darker hue than the rest of the body.

Comparative scale counts for all species within *Wallisserpens* gen. nov. as defined herein, including both subgenera is provided by Myers (1974), table 6.

Species within the subgenus *Jockpaullus* subgen. nov. are exclusively Mexican, occurring mainly in the area of the Sierra Madre Oriental to the Sierra Madre del Sur. Myers (1974) map 7, provides a distribution map for the subgenus.

Etymology: Named in honor of Jock Paull, of Hawthorn, Victoria, recently deceased from lung cancer in his early fifties, a casualty of the government backed drug of addiction, nicotine, freely sold in Australia and elsewhere in the form of sticks marketed as cigarettes.

While the government of Australia is directly responsible for the many annual smoking related deaths, no one is punished. Meanwhile in 2011, the same government closed down the successful Snakebusters reptile education business on the false claim they made that the company was a serious public hazard. Snakebusters had a perfect safety record, unlike the government's own dysfunctional wildlife business enterprises such as Melbourne Zoo/Healesville Sanctuary (trading under the business name "Zoos Victoria") that had had numerous near fatal snakebites in the previous 8 years.

Of course the driver of the attack on Snakebusters was a grab at the business and customers that the government enterprise could not attract due to their inferior education standards and lack of anything resembling a proper safety protocol.

Which brings back the reason the government lets people like Jock Paull get addicted to the heavily marketed killer drugs like nicotine. It's all about the money they make in cigarette taxes, political donations to individual lawmakers and so on.
Jock Paull gave joy to millions of people globally as a part of the acclaimed rock band TISM and his other music ventures. While he is now deceased his music lives on, as does his daughter Ella.

Content of subgenus *Jockpaullus* subgen. nov.

Wallisserpens (*Jockpaullus*) *quinquelineata* (Cope, 1886) (Type species), Common name: Pueblan Graceful Brown Snake.

Wallisserpens (*Jockpaullus*) *forbesi* (Smith, 1942), Common name: Forbes' Graceful Brown Snake.

Wallisserpens (*Jockpaullus*) *gaigeae* (Bailey, 1937), Common name: Gaige's Pine Forest Snake.

Wallisserpens (*Jockpaullus*) *montana* (Smith, 1944), Common name: Nuevo Leon Graceful Brown Snake.

GENUS *ROBVALENTICUS* GEN. NOV.

Type species: *Dromicus taeniatus* Peters, 1863

Diagnosis: The three species within the genus *Robvalenticus* subgen. nov. are separated from all other genera within *Rhadinaea senso lato* (including those diagnosed and defined within this paper) by the following suite of characters: The single hemipenis lacks notable, special features, except that spinules occur in a relatively wide and uniform band around the basal section of the distinct capitulum; the asulcate fold is doubled. Scutellation is generalized (except for 1+1 temporals in *Robvalenticus fulvivittis*); a subpreocular is usually present. The head and body tend to be continuously and conspicuously striped with wide brown or black stripes that set off a narrow, dorsolateral pale stripe of ground color. The dorsal ground color does not extend onto the tips of the ventrals (or only minutely and inconspicuously so).

Robvalenticus fulvivittis is not especially large (less than 500 mm.), but some individuals of *Robvalenticus omiltemana* probably exceed 600 mm. total length and individuals of *Robvalenticus taeniata* get to at least 880 mm (Myers 1974), making this taxon the largest species within *Rhadinaea* as previously defined.

Robvalenticus subgen. nov. is strictly Mexican, occurring in the highlands north and south of the Balsas basin in the Cordillera Volcanica, Sierra de Coalcomain, Sierra Madre de Oaxaca and principally in the Sierra Madre del Sur.

Etymology: Named in honour of Australian reptile photographer, Rob Valentic, in recognition of his various areas of expertise with reptiles spanning a period commencing the early 1990's.

That was when I convinced his reluctant parents to let him get reptiles as pets after he stalked me down in the middle of the city of Melbourne, Australia.

On the relevant date, he got me to sign his first ever reptile book, *Australian Reptiles and Frogs* (Hoser, 1989), after which he forced me to spend an hour with his very worried mother explaining why he should be allowed to keep reptiles.

Content of *Robvalenticus* gen. nov.

Robvalenticus taeniatus (Peters, 1863) (Type species), Common name: Pine-Oak Snake.

Robvalenticus fulvivittis (Cope, 1875), Common name: Ribbon Graceful Brown Snake.

Robvalenticus omiltemanus (Günther, 1893), Common name: Guerreran Pine Woods Snake.

GENUS *BARRYGOLDSMITHUS* GEN. NOV.

Type species: *Contia calligaster* Cope, 1876

Diagnosis: *Barrygoldsmithus* gen. nov. is a genus monotypic for the species *calligaster*.

This species is separated from all other genera within *Rhadinaea senso lato* (including those diagnosed and defined within this paper) by the following suite of characters: The hemipenis is bilobed, completely without capitation, and has only soft papillae (no spinules) on the calyces. There is no subpreocular and the temporal formula is 1+1. The supralabials

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are boldly margined with black, and there is a midventral series of black triangles or half-moons, or a fusion of such markings to form a midventral stripe.

B. calligaster has different features that are in line with other genera as defined herein.

The bilobated hemipenis, absence of a subpreocular, and the occasional tendency for a pale bar from the eye to the corner of the mouth are similar to *Rhadinella* species.
The characteristic midventral markings, and the dorsal green coloration of some individuals, are found only in occasional specimens of *Urotheca decipiens.* However, other key traits in *Barrygoldsmithus* are not in common with *Urotheca.*

The occurrence of the similar characteristics in two species from the same region is almost certainly a result of convergence rather than a close relationship.

The completely different hemipenes in the two genera, the elongated, thickened tail in the *Urotheca* and basic pattern differences (white versus dark lines) are too basic to ignore. *U. decipiens* is a very different appearing snake than *B. calligaster*. *U. decipiens* has a much longer tail, one or two thin white lines on each side of a basically brown or black body, and there often is a conspicuous nape collar.

The species *B. calligaster* is found in wet, montane forest, in the Cordillera Central of middle Costa Rica and in the Cordillera de Talamanca to extreme western Panama. The known elevational range is 1220-2439 meters.

Etymology: Named in honor of Melbourne, Australia snake catcher Barry Goldsmith who has spent many years rescuing snakes from houses in Melbourne's outer south-east suburbs before safely relocating them elsewhere. I note herein that he has not had to resort to the cruel, illegal and barbaric use of metal "Killer Tongs" used since about 2004 by novice snake handlers in Melbourne, which invariably break snake's bones and lead to snakes dying slow agonizing deaths from internal injuries.

The snakes attacked by tongs would die more humanely if whacked on the head with a shovel!

It is a serious indictment of the Victorian State Wildlife department (DSE) and another in Queensland and their staff that not only have they not stopped snake handlers using these tongs to catch, handle and kill snakes, but worse still they have actually worked for some of these inexperienced snake handlers by unlawfully cancelling snake catching permits of so-called "business rivals" who actually like snakes and prefer to catch them by hand and without injuring the reptiles.

First reviser or subsequent reviser note:

In the event that any subsequent worker seeks to merge or join named groups within this paper, as in genera or subgenera, the order of usage and conservation should be in the order of publication by page priority, as in that first published in the body of the paper takes precedence over that published later in the same paper.

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