

**A division of the elapid genus *Salomonelaps* McDowell, 1970 from the Solomon Islands, including the resurrection of two species and formal description of four other forms (Serpentes: Elapidae: Micropechiini: Loveridgelapina).**

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#### ABSTRACT

Since 1970, the Solomon Islands elapid genus *Salomonelaps* McDowell, 1970 has been viewed by virtually all herpetologists as being comprised of a single variable species.

*Salomonelaps par* (Boulenger, 1884) has not been subjected to any serious taxonomic scrutiny, since being described.

The two species *Hoplocephalus woodfordii* Boulenger, 1888 and *H. melanurus* Boulenger, 1888 have been ignored by all authors since, except perhaps for Kinghorn (1928), Schmidt (1932) and Williams and Parker (1964), who recognized the species "*par*" and "*woodfordii*" in their accounts.

More recently when erecting the genus *Salomonelaps*, McDowell (1970) treated "*woodfordii*" and "*melanurus*" as synonyms of "*par*".

However, inspection of specimens from the majority of islands *Salomonelaps* occurs confirms the belief of McCoy (2006) that populations are significantly different on various islands.

This includes consistent differences in scalation, colouration, dentition and hemipene morphology and can be reliably used to separate each form.

As a result, of an assessment of the snakes and the relevant available genetic evidence involving species affected by the same geographical barriers, e.g. lizards of the genera *Corucia* Gray, 1855 and *Tribolonotus* Duméril and Bibron, 1839 as detailed by Austin *et al.* (2010) and Hagen *et al.* (2012), and the geological evidence of relevance, it is clear that the relevant forms are sufficiently divergent to warrant taxonomic recognition.

Thus seven distinctive forms are herein given taxonomic recognition. All of *S. par*, *S. woodfordii* and *S. melanurus* are recognized as full species. Of the remaining four forms that are named for the first time, three are treated as subspecies of *S. par*, as it is likely that their populations were connected in the recent past during glacial maxima as outlined by Hagen *et al.* (2012), even though they are now clearly isolated and evolving independently of one another. Another, population from Malaita, believed to have been separated from the other populations the longest and thought not to be connected in recent ice age maxima, is herein treated as a full species.

Rafting between islands is not viewed as a significant means of dispersal or ongoing gene flow, beyond times of initial colonisation for reasons given by Hagen *et al.* (2012) and Balsai (1995) and also due to the absence of the genus from nearby islands such as San Cristobal or beyond the Bougainville group.

**Keywords:** Taxonomy; snakes; genus; *Salomonelaps*; species; *par*, *woodfordii*, *melanurus*; Boulenger; Solomon Islands; Solomons; Guadalcanal; Ngela; Nggela, Malaita; San Cristobal; Shortland Island; New Georgia; Fauro; Santa Isabel; Choiseul; Florida Islands; Bougainville; new species; *desburkei*; new subspecies; *ngelaensis*; *choiseulensis*; *shortlandensis*.

#### INTRODUCTION

Since 1970, the Solomon Islands elapid genus *Salomonelaps* McDowell, 1970 has been viewed by all herpetologists as being comprised of a single variable species. This view has not until now been questioned or challenged in spite of mounting evidence to the contrary. *Salomonelaps par* (Boulenger, 1884) has not been subjected to any serious taxonomic scrutiny, since

being described, save for McDowell's work in 1970.

McDowell did an excellent job of summarizing physical differences between populations from different islands, but failed to see the significance of these differences, considering them mere variations in a wide-ranging species.

However it should be noted that in 1970, the time McDowell's study was published, he was isolated from molecular studies not

available at the time.

He also was unable to merge this evidence with what is now well known about the recent geological past, in terms of ice-age maxima, changing sea levels and climates and the roles these play in speciation, either in these relevant snakes or other reptile taxa affected by the same factors, all of which have led to different conclusions made here and in the face of a lot of identical evidence.

The two species *Hoplocephalus woodfordii* Boulenger, 1888 and *H. melanurus* Boulenger, 1888 have been ignored by all authors since being named, except perhaps for Kinghorn (1928) and Schmidt (1932), who recognized the species "*par*" and "*woodfordii*" in their accounts, and ignoring the account of Williams and Parker (1964) who only accepted *H. woodfordii* on the grounds of precedent (McDowell, 1970).

More recently when erecting the genus *Salomonelaps* McDowell (1970) treated both "*woodfordii*" and "*melanurus*" as synonyms of "*par*".

This appears to have been the taxonomy followed by all herpetologists since then.

Inspection of a large number of specimens (several dozen) from the majority of islands *Salomonelaps* is known from and a review of the literature, including the work of McDowell (1970), confirms the statement of McCoy (2006) that populations are significantly different on various islands.

This includes consistent differences in scalation, colouration, hemipene morphology in males and dentition as outlined by McDowell (1970) and combined, these can reliably be used to separate each form.

Notwithstanding McCoy's two books on Solomon Islands herpetofauna (McCoy 1980 and McCoy 2006), which included colour photos of a number of different forms of *Salomonelaps*, until now, no one has taken the matter further in terms of assessing these snakes to see if they represent just one highly variable species, or in fact more than one.

Hence I engaged in such an assessment by reconciling morphological differences with geographical evidence to ascertain divergences between local forms to determine which were consistently different enough to be recognized as either subspecies or species.

As a result, of an assessment of the snakes and the relevant available genetic evidence involving species studied already that have been affected by the same geographical barriers (e.g. *Corucia* Gray, 1856 and *Tribolonotus* Duméril and Bibron, 1839) as detailed in the papers by Austin *et al.* (2010) and Hagen *et al.* (2012), and the geological evidence of relevance, it is clear that there are at least six relevant forms are sufficiently divergent to warrant taxonomic recognition.

Divergences were ascertained on the basis of previous ice-age maxima connections between relevant islands as explained by authors such as Bruns *et al.* (2009), Russell and Coupe (1984) and recent molecular studies on both *Corucia* Gray, 1856 and *Tribolonotus* Duméril and Bibron, 1839 as published and the relevant sources cited within.

Notwithstanding the theft of relevant materials from this author in an illegal armed raid on 17 August 2011, which were not returned (Court of Appeal Victoria 2014 and VCAT 2015), I have made a decision to publish this paper in view of the conservation significance attached to the formal recognition of unnamed species and subspecies and on the basis that further delays may in fact put these unnamed taxa at greater risk of extinction.

Thus seven distinctive forms are herein given taxonomic recognition on the basis that likely divergences exceed the timeline determined as significant by Keogh *et al.* (2003).

All of *S. par*, *S. woodfordi*, *S. melanurus* are recognized as full species. Of the remaining four forms that are named for the first time, three are treated as subspecies of *S. par*, as it is likely that their populations were connected in the recent past during

glacial maxima as outlined by Hagen *et al.* (2012), even though they are now clearly isolated, morphologically distinct and evolving independently of one another. Another form, from Malaita, believed to have been separated from the other populations the longest and thought not to be connected in recent ice age maxima, is herein treated as a full species. Rafting between islands is not viewed as a significant means of dispersal or ongoing gene flow, beyond times of initial colonisation for reasons given by Hagen *et al.* (2012) and Balsai (1995) and also due to the absence of the genus from nearby islands such as San Cristobal or beyond the Bougainville group. The islands Guadalcanal and Malaita are separated from one another and the others by a sea depth of more than 200 metres and hence do not appear to have been joined at any stage in the last 5 million years.

#### MATERIALS AND METHODS

These are not formally explained in a number of my recent papers under the heading "Materials and Methods" or similar, on the basis they are self evident to any vaguely perceptive reader. However, the process by which the following taxonomy and nomenclature in this and other recent papers by myself of similar form, has been arrived at, is explained herein for the benefit of people who have recently published so-called "criticisms" online of some of my recent papers. They have alleged a serious "defect" by myself not formally explaining "Materials and Methods" under such a heading.

The process involved in creating the final product for this and other relevant papers has been via a combination of the following:

Genera and component species are audited to see if their classifications are correct on the basis on known type specimens, locations and the like when compared with known phylogenies and obvious morphological differences between like species.

Original descriptions and contemporary concepts of the species are matched with available specimens from across the ranges of the species to see if all conform to accepted norms.

These may include those held in museums, private collections, collected in the field, photographed, posted on the internet or held by individuals, and only when the location data is good and any other relevant data available.

Where specimens do not appear to comply with the described species (and accepted concept of the species), this non-conformation is looked at with a view to ascertaining if it is worthy of taxonomic recognition or other relevant considerations on the basis of differences that can be tested for antiquity or deduced from earlier studies.

When this appears to be the case (non-conformation), the potential target taxon is inspected as closely as practicable with a view to comparing with the nominate form or forms if other similar taxa have been previously named.

Other relevant data is also inspected, including any available molecular studies which may indicate likely divergence of populations.

Where molecular studies are unavailable for the relevant taxon or group, other studies involving species and groups constrained by the same geographical or geological barriers, or with like distribution patterns are inspected as they give reasonable indications of the likely divergences of the taxa being studied herein.

Additionally other studies involving geological history, sea level and habitat changes associated with long-term climate change, including recent ice age changes in sea levels, versus known sea depths are utilized to predict past movements of species and genus groups in order to further ascertain likely divergences between extant populations (as done in this very paper).

When all available information checks out to show taxonomically distinct populations worthy of recognition, they are then

recognized herein according to the rules of the *International Code of Zoological Nomenclature* (Ride *et al.* 1999).

This means that if a name has been properly proposed in the past, it is used. This is exactly what happens in this paper for the taxon described as *Hoplocephalus woodfordii* Boulenger, 1888.

Alternatively, if no name is available, one is proposed according to the rules of the Code as is done four times in this paper.

As a matter of trite I mention that if a target taxon or group does check out as being "in order" or properly classified, a paper is usually not published unless some other related taxon is named for the first time.

The published literature relevant to the taxonomic judgements made within this paper includes papers relevant to Solomon Islands species affected by the same physical barriers to dispersion as well as those directly relevant to *Salomonelaps*. Combined, they include the following:

Adler, *et al.* (1995), Austin *et al.* (2010), Balsai (1995), Barbour (1921), Boseto and Pikacha (2016), Boulenger (1884, 1886, 1887), Bruns *et al.* (1989), Cogger (1972), Dahl (1986), Duméril and Bibron (1839), Gray (1856), Greer (1982), Greer and Parker (1967), Greer and Simon (1982), Hagen *et al.* (2012), Hall (2002), Iskandar and Erdelen (2006), Keogh *et al.* (2003), Kinghorn (1928, 1937), McCoy (1980, 2006), McDowell (1970), Mys (1988), Ogilby (1890), Pianka and Vitt (2003), Pylon *et al.* (2013), Reeder (2003), Rittmeyer and Austin (2015), Russell and Coupe (1984), Schmidt (1932), Williams and Parker (1964), Zweifel (1966), and sources cited therein.

#### GENUS SALOMONELAPS McDOWELL, 1970.

**Type species:** *Hoplocephalus par* Boulenger, 1884.

**Diagnosis:** Because until now the elapid genus has been treated as monotypic, the diagnosis has been treated as the same for both genus and species.

All species and subspecies in the genus (as recognized herein) can be defined as follows:

The head is slightly depressed, distinct from the neck. The eye is moderate and nearly as long as its distance from the mouth. Nasal may be single, but is usually divided and if single always has a groove. One preocular, two postoculars. Internasals half as long as the prefrontals. The rostral is broader than deep and just visible from above. The frontal is as wide as long or slightly longer, nearly twice as broad as the supraocular, as long as its distance from the rostral, much shorter than the parietals. Posterior nasal is in contact with the preocular. 7 Supralabials, in which the third and fourth enter the eye. Four lower labials are in contact with the anterior chin-shields, which are shorter than the posterior. Temporals 1+2. The rostral is wider than deep and visible from above. Midbody scales in 15-17 rows, 158-180 ventrals and the anal is divided. 38-59 subcaudals may be either all single, all divided or a combination of these, often relevant to a given island population.

McDowell (1970) gives a more detailed description of the genus and also comparisons with the related genera of *Ogmodon* Peters, 1864 and *Loveridgelaps* McDowell, 1970, as well as the distantly related genus *Parapistocalamus* Roux, 1934.

**Content:** *Salomonelaps par* (Boulenger, 1884) (type species) (including three subspecies); *S. desburkei* sp. nov.; *S. melanurus* (Boulenger, 1888); *S. woodfordii* (Boulenger, 1888).

#### SALOMONELAPS PAR (BOULENGER, 1884).

**Holotype:** A specimen at the Museum of Natural History, UK, specimen number: BMNH 1946.1.20.66 from Fauro Island, Solomon Islands, situated immediately south-east of Bougainville and west of the Bougainville Strait.

**Diagnosis:** *Salomonelaps par* is diagnosed as for the genus and separated from the other species and subspecies in the genus, as follows:

The nominate subspecies of *S. par* from Bougainville and immediately offshore islands is separated from all other subspecies and species by the following unique suite of

characters: there is no dark etching of the scales of the upper labials, including the rear ones, or the scales on the head in front of the eye. There is no distinct nape at the rear of the head, although there is slight darkening in this region. The body has semi-distinct to distinct banding, slight darkening of tail and an immaculate creamish-white venter. If there are dark etched scales on the venter, they are only on the underside of the tail. There is none, or very little lightening towards the front of the snout. 158-167 ventrals.

The subspecies *S. par choiseulensis* subsp. nov. described herein, is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: semi-distinct to distinct banding. The darker bands, described by McDowell (1970) as "broad banded" are 3-5 scale lengths wide, alternating with lighter bands 1-3 scale lengths wide. The dark bands are essentially formed by prominent dark edging of the scales and similarly dark interstitial skin, whereas the interstitial skin of the pale bands is whitish. In this taxon, the venter is not immaculate. It has numerous dark etched scales over a shiny whitish background along the main part of the mid body created by extensions of the dorsal bands running across. These become prominent as one moves away from the anterior end of the snake. There is none, or very little lightening towards the front of the snout.

The subspecies *S. par ngelaensis* subsp. nov. from the Florida Islands group is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: bands invisible or rarely they are extremely indistinct (except in juveniles), scales of lower flanks have white in the centers in a manner not seen in other forms, giving a significantly different appearance to other forms. Most of the dorsal scales have a thick dark blackish etching, infilled with colour (most commonly reddish). The rostral is strongly whitish, which spreads to nearby scales of the snout. There is also a significant amount of darkening below the eye, but otherwise not around the eye.

*Salomonelaps par shortlandensis* subsp. nov. from the Shortland Islands group of the Solomon Islands is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: The pattern is banded dorsally, to a width where the dark bands are about 2 scales wide and the lighter bands are about 2-3 scales wide, being slightly wider than the dark ones (in contrast to other banded *Salomonelaps*). The colour of the dorsal scales, apart from the black edging of the scales in the dark bands, is tawny orange, in contrast to the yellowish white and immaculate belly.

In specimens of other subspecies of *S. par* the scales of the dark bands may have reddish brown centres, but the scales of the light bands are coloured like the belly.

Female *Salomonelaps par shortlandensis* subsp. nov. are unusual in having six to eight non-canalaculate maxillary teeth, versus five (rarely 4 or 6) in all other forms of *Salomonelaps*. The taxon is also unusual in having 15 mid-body rows, versus the usual number of 17 (rarely 15 or 16) in the other populations of *Salomonelaps*. Of the other forms of *Salomonelaps* 15 mid body rows is only seen in *S. melanurus* and even then it is relatively unusual. Of course *S. melanurus* is unique in terms of *Salomonelaps* by the configuration of the banding.

The species *S. woodfordi* (Boulenger, 1888) from the New Georgia island group in the Western District is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: The entire body, including the flanks is of a uniform colour, with each scale bordered by black, which results in a reticulated pattern as noted by Boulenger (1888), McDowell (1970) and McCoy (2006). The back of the head is slightly darker in colour, while the front of the snout is lighter, but not white. All the dorsal head shields have dark etching and there are whitish upper labials along the lip line, which darken higher up, near the eye. There is no darkening on the posterior dorsal surface. Subcaudals are white

and patternless or rarely with darker margins. 165-179 ventrals. Most or all subcaudals are divided (versus all or mainly single in the other species).

Rarely specimens of *S. woodfordi* may have a dorsal surface that is nearly a uniform dark grey colour, but all the scales of the first row, as well as some of those of the second row, have pale centres; ventrals and the subcaudals have dark etching on the margins.

The species *S. melanurus* (Boulenger, 1888) from Guadalcanal in the central district is characterised and separated from all other *Salomonelaps* species and subspecies by the following characters: dark etching of the upper labials, but not those in front of the eyes. There is significant darkening around the eye, especially posterior to it and darkening at the rear of the head forms a distinct nape. There is slight to significant darkening of the tail. Dorsal cross bands are noticeably more numerous and thinner than in other forms and were described by McDowell (1970) as "fine banded".

McDowell's description of the dorsal colouration was as follows: "The dark bands are narrow (about one to one and a half scale lengths wide) and separated by pale bands only slightly, if at all, wider (one to two scale lengths wide). The general colour is neutral or greyish brown, without orange tone, although the scales may become almost uniform black, particularly posteriorly, so that the banding pattern is visible only on the interstitial skin. The bands do not extend onto the ventral surface and there is no contrast between the colour of the belly and that of the pale dorsal bands."

*S. melanurus* has 164-170 ventrals.

The new species *S. desburkei* sp. nov. from Malaita in the Malaita district is characterised and separated from the other species of *Salomonelaps* McDowell, 1970 by the presence of upper labials that are lighter near the lip, darkening towards the eye-line and a dorsal pattern with semidistinct bands in adults. The darker bands, described by McDowell (1970) as "broad banded" are 3-5 scale lengths wide, alternating with lighter bands 1-3 scale lengths wide. The dark bands are essentially formed by prominent dark edging of the scales and similarly dark interstitial skin, whereas the interstitial skin of the pale bands is whitish. The dorsal pattern does not appear reticulated as seen in *S. woodfordi* (described below).

In *S. desburkei* sp. nov. the dorsal pattern does not extend to the venter as seen in broad banded *Salomonelaps* or those with semi-distinct or indistinct bands from other islands, such as Ngella or Santa Isabella.

Male *S. desburkei* sp. nov. are further separated from all other species in the genus by the following suite of characters for the hemipenes, Organ to subcaudal (13), forked at subcaudal (11), Sulcus forked at subcaudal (9), Large spines begin at subcaudal 7.

**Distribution:** The nominate subspecies of *S. par par* is believed to be restricted to the Bougainville Group of islands only, as in islands west of the Bougainville Strait including Fauro and Buka islands. See the following subspecies descriptions for the distribution of other forms of *S. par* in the Solomon Islands, to complete the distribution for all *S. par* subspecies.

**SALOMONELAPS PAR CHOISEULENSIS SUBSP. NOV.**

**Holotype:** A preserved specimen at the Museum of Comparative Zoology, Harvard University, USA, specimen number: R-193030 collected from a trail running from Ghargara Village to Sarelata Camp, Choiseul Island, Solomon Islands.

The Museum of Comparative Zoology, Harvard University, USA is a public facility that allows access to its specimen holdings.

**Paratype:** A preserved specimen at the Australian Museum, Sydney, NSW, Australia, specimen number: R.127354 collected from Gnulahaghe Village, Ysabel Island (Santa Isabella), Solomon Islands (8°07' S, 159°32' E).

**Diagnosis:** *Salomonelaps par* is diagnosed as for the genus and separated from the other species and subspecies in the

genus, as follows:

The nominate subspecies of *S. par* from Bougainville and immediately offshore islands is separated from all other subspecies and species by the following unique suite of characters: there is no dark etching of the scales of the upper labials, including the rear ones, or the scales on the head in front of the eye. There is no distinct nape at the rear of the head, although there is slight darkening in this region. The body has semi-distinct to distinct banding, slight darkening of tail and an immaculate creamish-white venter. If there are dark etched scales on the venter, they are only on the underside of the tail. There is none, or very little lightening towards the front of the snout.

The subspecies *S. par choiseulensis* subsp. nov. described herein, is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: semi-distinct to distinct banding. The darker bands, described by McDowell (1970) as "broad banded" are 3-5 scale lengths wide, alternating with lighter bands 1-3 scale lengths wide. The dark bands are essentially formed by prominent dark edging of the scales and similarly dark interstitial skin, whereas the interstitial skin of the pale bands is whitish. In this taxon, the venter is not immaculate. It has numerous dark etched scales over a shiny whitish background along the main part of the mid body created by extensions of the dorsal bands running across. These become prominent as one moves away from the anterior end of the snake. There is none, or very little lightening towards the front of the snout.

The subspecies *S. par ngelaensis* subsp. nov. from the Florida Islands group is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: bands invisible or rarely they are extremely indistinct (except in juveniles), scales of lower flanks have white in the centers in a manner not seen in other forms, giving a significantly different appearance to other forms. Most of the dorsal scales have a thick dark blackish etching, infilled with colour (most commonly reddish). The rostral is strongly whitish, which spreads to nearby scales of the snout. There is also a significant amount of darkening below the eye, but otherwise not around the eye.

*Salomonelaps par shortlandensis* subsp. nov. from the Shortland Islands group of the Solomon Islands is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: The pattern is banded dorsally, to a width where the dark bands are about 2 scales wide and the lighter bands are about 2-3 scales wide, being slightly wider than the dark ones (in contrast to other banded *Salomonelaps*). The colour of the dorsal scales, apart from the black edging of the scales in the dark bands, is tawny orange, in contrast to the yellowish white and immaculate belly.

In specimens of other subspecies of *S. par* the scales of the dark bands may have reddish brown centres, but the scales of the light bands are coloured like the belly.

Female *Salomonelaps par shortlandensis* subsp. nov. are unusual in having six to eight non-canalicate maxillary teeth, versus five (rarely 4 or 6) in all other forms of *Salomonelaps*. The taxon is also unusual in having 15 mid-body rows, versus the usual number of 17 (rarely 15 or 16) in the other populations of *Salomonelaps*. Of the other forms of *Salomonelaps* 15 mid body rows is only seen in *S. melanurus* and even then it is relatively unusual. Of course *S. melanurus* is unique in terms of *Salomonelaps* by the configuration of the banding.

The species *S. woodfordi* (Boulenger, 1888) from the New Georgia island group in the Western District is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: The entire body, including the flanks is of a uniform colour, with each scale bordered by black, which results in a reticulated pattern as noted by Boulenger (1888), McDowell (1970) and McCoy (2006). The back of the head is slightly darker in colour, while the front of the

snout is lighter, but not white. All the dorsal head shields have dark etching and there are whitish upper labials along the lip line, which darken higher up, near the eye. There is no darkening on the posterior dorsal surface. Subcaudals are white and patternless or rarely with darker margins. 165-179 ventrals. Most or all subcaudals are divided (versus all or mainly single in the other species).

Rarely specimens of *S. woodfordi* may have a dorsal surface that is nearly a uniform dark grey colour, but all the scales of the first row, as well as some of those of the second row, have pale centres; ventrals and the subcaudals have dark etching on the margins.

The species *S. melanurus* (Boulenger, 1888) from Guadalcanal in the central district is characterised and separated from all other *Salomonelaps* species and subspecies by the following characters: dark etching of the upper labials, but not those in front of the eyes. There is significant darkening around the eye, especially posterior to it and darkening at the rear of the head forms a distinct nape. There is slight to significant darkening of the tail. Dorsal cross bands are noticeably more numerous and thinner than in other forms as were described by McDowell (1970) as "fine banded".

McDowell's description of the dorsal colouration was as follows: "The dark bands are narrow (about one to one and a half scale lengths wide) and separated by pale bands only slightly, if at all, wider (one to two scale lengths wide). The general colour is neutral or greyish brown, without orange tone, although the scales may become almost uniform black, particularly posteriorly, so that the banding pattern is visible only on the interstitial skin. The bands do not extend onto the ventral surface and there is no contrast between the colour of the belly and that of the pale dorsal bands."

*S. melanurus* has 164-170 ventrals.

The new species *S. desburkei* sp. nov. from Malaita in the Malaita district is characterised and separated from the other species of *Salomonelaps* McDowell, 1970 by the presence of upper labials that are lighter near the lip, darkening towards the eye-line and a dorsal pattern with semidistinct bands in adults. The darker bands, described by McDowell (1970) as "broad banded" are 3-5 scale lengths wide, alternating with lighter bands 1-3 scale lengths wide. The dark bands are essentially formed by prominent dark edging of the scales and similarly dark interstitial skin, whereas the interstitial skin of the pale bands is whiteish. The dorsal pattern does not appear reticulated as seen in *S. woodfordi* (described below).

In *S. desburkei* sp. nov. the dorsal pattern does not extend to the venter as seen in broad banded *Salomonelaps* or those with semi-distinct or indistinct bands from other islands, such as Ngella or Santa Isabella.

Male *S. desburkei* sp. nov. are further separated from all other species in the genus by the following suite of characters for the hemipenes, Organ to subcaudal (13), forked at subcaudal (11), Sulcus forked at subcaudal (9), Large spines begin at subcaudal 7.

**Distribution:** Choiseul, Santa Isabel and immediately offshore smaller islands, Solomon Islands.

**Etymology:** Named in reflection of where the taxon is found.

**SALOMONELAPS PAR NGELAENSIS SUBSP. NOV.**

**Holotype:** A preserved specimen at the Australian Museum, Sydney, NSW, Australia, specimen number: R.91262, collected from Mboromole, Nggela Island, Solomon Islands (9°03' S, 160°18' E).

The Australian Museum, Sydney, NSW, Australia is a public facility that allows access to its specimen holdings.

**Paratypes:** Three preserved specimens at the Australian Museum, Sydney, NSW, Australia, specimen numbers: R.91261, R.91227 and R.91263, collected from Boromole, Nggela Island, Solomon Islands (9°03' S, 160°18' E).

**Diagnosis:** *Salomonelaps par* is diagnosed as for the genus and separated from the other species and subspecies in the genus, as follows:

The nominate subspecies of *S. par* from Bougainville and immediately offshore islands is separated from all other subspecies and species by the following unique suite of characters: there is no dark etching of the scales of the upper labials, including the rear ones, or the scales on the head in front of the eye. There is no distinct nape at the rear of the head, although there is slight darkening in this region. The body has semi-distinct to distinct banding, slight darkening of tail and an immaculate creamish-white venter. If there are dark etched scales on the venter, they are only on the underside of the tail. There is none, or very little lightening towards the front of the snout.

The subspecies *S. par ngelaensis* subsp. nov. from the Florida Islands group described herein, is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: bands invisible or rarely they are extremely indistinct (except in juveniles), scales of lower flanks have white in the centers in a manner not seen in other forms, giving a significantly different appearance to other forms. Most of the dorsal scales have a thick dark blackish etching, infilled with colour (most commonly reddish). The rostral is strongly whitish, which spreads to nearby scales of the snout. There is also a significant amount of darkening below the eye, but otherwise not around the eye.

The subspecies *S. par choiseulensis* subsp. nov. described herein, is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: semi-distinct to distinct banding. The darker bands, described by McDowell (1970) as "broad banded" are 3-5 scale lengths wide, alternating with lighter bands 1-3 scale lengths wide. The dark bands are essentially formed by prominent dark edging of the scales and similarly dark interstitial skin, whereas the interstitial skin of the pale bands is whiteish. In this taxon, the venter is not immaculate. It has numerous dark etched scales over a shiny whitish background along the main part of the mid body created by extensions of the dorsal bands running across. These become prominent as one moves away from the anterior end of the snake. There is none, or very little lightening towards the front of the snout.

*Salomonelaps par shortlandensis* subsp. nov. from the Shortland Islands group of the Solomon Islands is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: The pattern is banded dorsally, to a width where the dark bands are about 2 scales wide and the lighter bands are about 2-3 scales wide, being slightly wider than the dark ones (in contrast to other banded *Salomonelaps*). The colour of the dorsal scales, apart from the black edging of the scales in the dark bands, is tawny orange, in contrast to the yellowish white and immaculate belly.

In specimens of other subspecies of *S. par* the scales of the dark bands may have reddish brown centres, but the scales of the light bands are coloured like the belly.

Female *Salomonelaps par shortlandensis* subsp. nov. are unusual in having six to eight non-canalicate maxillary teeth, versus five (rarely 4 or 6) in all other forms of *Salomonelaps*. The taxon is also unusual in having 15 mid-body rows, versus the usual number of 17 (rarely 15 or 16) in the other populations of *Salomonelaps*. Of the other forms of *Salomonelaps* 15 mid body rows is only seen in *S. melanurus* and even then it is relatively unusual. Of course *S. melanurus* is unique in terms of *Salomonelaps* by the configuration of the banding.

The species *S. woodfordi* (Boulenger, 1888) from the New Georgia island group in the Western District is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: The entire body, including the flanks is of a uniform colour, with each scale bordered by black, which results in a reticulated pattern as noted

by Boulenger (1888), McDowell (1970) and McCoy (2006). The back of the head is slightly darker in colour, while the front of the snout is lighter, but not white. All the dorsal head shields have dark etching and there are whitish upper labials along the lip line, which darken higher up, near the eye. There is no darkening on the posterior dorsal surface. Subcaudals are white and patternless or rarely with darker margins. 165-179 ventrals. Most or all subcaudals are divided (versus all or mainly single in the other species).

Rarely specimens of *S. woodfordi* may have a dorsal surface that is nearly a uniform dark grey colour, but all the scales of the first row, as well as some of those of the second row, have pale centres; ventrals and the subcaudals have dark etching on the margins.

The species *S. melanurus* (Boulenger, 1888) from Guadalcanal in the central district is characterised and separated from all other *Salomonelaps* species and subspecies by the following characters: dark etching of the upper labials, but not those in front of the eyes. There is significant darkening around the eye, especially posterior to it and darkening at the rear of the head forms a distinct nape. There is slight to significant darkening of the tail. Dorsal cross bands are noticeably more numerous and thinner than in other forms as were described by McDowell (1970) as "fine banded".

McDowell's description of the dorsal colouration was as follows: "The dark bands are narrow (about one to one and a half scale lengths wide) and separated by pale bands only slightly, if at all, wider (one to two scale lengths wide). The general colour is neutral or greyish brown, without orange tone, although the scales may become almost uniform black, particularly posteriorly, so that the banding pattern is visible only on the interstitial skin. The bands do not extend onto the ventral surface and there is no contrast between the colour of the belly and that of the pale dorsal bands."

*S. melanurus* has 164-170 ventrals.

The new species *S. desburkei* sp. nov. from Malaita in the Malaita district is characterised and separated from the other species of *Salomonelaps* McDowell, 1970 by the presence of upper labials that are lighter near the lip, darkening towards the eye-line and a dorsal pattern with semidistinct bands in adults. The darker bands, described by McDowell (1970) as "broad banded" are 3-5 scale lengths wide, alternating with lighter bands 1-3 scale lengths wide. The dark bands are essentially formed by prominent dark edging of the scales and similarly dark interstitial skin, whereas the interstitial skin of the pale bands is whiteish. The dorsal pattern does not appear reticulated as seen in *S. woodfordi* (described below).

In *S. desburkei* sp. nov. the dorsal pattern does not extend to the venter as seen in broad banded *Salomonelaps* or those with semi-distinct or indistinct bands from other islands, such as *Ngella* or *Santa Isabella*.

Male *S. desburkei* sp. nov. are further separated from all other species in the genus by the following suite of characters for the hemipenes, Organ at subcaudal (13), forked at subcaudal (11), Sulcus forked at subcaudal (9), Large spines begin at subcaudal 7.

**Distribution:** Believed to be restricted to the Florida islands in the Central District of the Solomon Islands (*Ngela* (AKA *Nggela*), including *Nggela Sule*, *Nggela Pile*, etc).

**Etymology:** This snake is named in reflection of where the taxon is found. The spelling is intentional, even if treated in error by a later reviser and should not be changed.

**SALOMONELAPS PAR SHORTLANDENSIS SUBSP. NOV.**

**Holotype:** A preserved specimen at the Museum of Comparative Zoology, Harvard University, USA, specimen number: R-88455 collected from Maliai, Magusaiai Island, in the Shortland Islands Group of the Solomon Islands.

The Museum of Comparative Zoology, Harvard University, USA

is a facility that allows access to its specimen holdings.

**Paratypes:** Preserved specimens at the Museum of Comparative Zoology, Harvard University, USA, specimen numbers: R-88457, R-88458, R-89475 and R-89476 collected from Nohu, Magusaiai Island, in the Shortland Islands Group of the Solomon Islands.

The holotype and paratypes are all females.

**Diagnosis:** *Salomonelaps par shortlandensis* subsp. nov. from the Shortland Islands group of the Solomon Islands is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: The pattern is banded dorsally, to a width where the dark bands are about 2 scales wide and the lighter bands are about 2-3 scales wide, being slightly wider than the dark ones (in contrast to other banded *Salomonelaps*). The colour of the dorsal scales, apart from the black edging of the scales in the dark bands, is tawny orange, in contrast to the yellowish white and immaculate belly. In specimens of other subspecies of *S. par* the scales of the dark bands may have reddish brown centres, but the scales of the light bands are coloured like the belly.

Female *Salomonelaps par shortlandensis* subsp. nov. are unusual in having six to eight non-canalicular maxillary teeth, versus five (rarely 4 or 6) in all other forms of *Salomonelaps*. The taxon is also unusual in having 15 mid-body rows, versus the usual number of 17 (rarely 15 or 16) in the other populations of *Salomonelaps*. Of the other forms of *Salomonelaps* 15 mid body rows is only seen in *S. melanurus* and even then it is relatively unusual. Of course *S. melanurus* is unique in terms of *Salomonelaps* by the configuration of the banding.

*Salomonelaps par* is otherwise diagnosed as for the genus and separated from the other species and subspecies in the genus, as follows:

The nominate subspecies of *S. par* from Bougainville and immediately offshore islands is separated from all other subspecies and species by the following unique suite of characters: there is no dark etching of the scales of the upper labials, including the rear ones, or the scales on the head in front of the eye. There is no distinct nape at the rear of the head, although there is slight darkening in this region. The body has semi-distinct to distinct banding, slight darkening of tail and an immaculate creamish-white venter. If there are dark etched scales on the venter, they are only on the underside of the tail. There is none, or very little lightening towards the front of the snout.

The subspecies *S. par ngelaensis* subsp. nov. from the Florida Islands group described herein, is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: bands invisible or rarely they are extremely indistinct (except in juveniles), scales of lower flanks have white in the centers in a manner not seen in other forms, giving a significantly different appearance to other forms. Most of the dorsal scales have a thick dark blackish etching, infilled with colour (most commonly reddish). The rostral is strongly whitish, which spreads to nearby scales of the snout. There is also a significant amount of darkening below the eye, but otherwise not around the eye.

The subspecies *S. par choiseulensis* subsp. nov. described herein, is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: semi-distinct to distinct banding. The darker bands, described by McDowell (1970) as "broad banded" are 3-5 scale lengths wide, alternating with lighter bands 1-3 scale lengths wide. The dark bands are essentially formed by prominent dark edging of the scales and similarly dark interstitial skin, whereas the interstitial skin of the pale bands is whiteish. In this taxon, the venter is not immaculate. It has numerous dark etched scales over a shiny whitish background along the main part of the mid body created by extensions of the dorsal bands running across. These become prominent as one moves away from the

anterior end of the snake. There is none, or very little lightening towards the front of the snout.

The species *S. woodfordi* (Boulenger, 1888) from the New Georgia island group in the Western District is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: The entire body, including the flanks is of a uniform colour, with each scale bordered by black, which results in a reticulated pattern as noted by Boulenger (1888), McDowell (1970) and McCoy (2006). The back of the head is slightly darker in colour, while the front of the snout is lighter, but not white. All the dorsal head shields have dark etching and there are whitish upper labials along the lip line, which darken higher up, near the eye. There is no darkening on the posterior dorsal surface. Subcaudals are white and patternless or rarely with darker margins. 165-179 ventrals. Most or all subcaudals are divided (versus all or mainly single in the other species).

Rarely specimens of *S. woodfordi* may have a dorsal surface that is nearly a uniform dark grey colour, but all the scales of the first row, as well as some of those of the second row, have pale centres; ventrals and the subcaudals have dark etching on the margins.

The species *S. melanurus* (Boulenger, 1888) from Guadalcanal in the central district is characterised and separated from all other *Salomonelaps* species and subspecies by the following characters: dark etching of the upper labials, but not those in front of the eyes. There is significant darkening around the eye, especially posterior to it and darkening at the rear of the head forms a distinct nape. There is slight to significant darkening of the tail. Dorsal cross bands are noticeably more numerous and thinner than in other forms as were described by McDowell (1970) as "fine banded".

McDowell's description of the dorsal colouration was as follows: "The dark bands are narrow (about one to one and a half scale lengths wide) and separated by pale bands only slightly, if at all, wider (one to two scale lengths wide). The general colour is neutral or greyish brown, without orange tone, although the scales may become almost uniform black, particularly posteriorly, so that the banding pattern is visible only on the interstitial skin. The bands do not extend onto the ventral surface and there is no contrast between the colour of the belly and that of the pale dorsal bands."

*S. melanurus* has 164-170 ventrals.

The new species *S. desburkei* sp. nov. from Malaita in the Malaita district is characterised and separated from the other species of *Salomonelaps* McDowell, 1970 by the presence of upper labials that are lighter near the lip, darkening towards the eye-line and a dorsal pattern with semidistinct bands in adults. The darker bands, described by McDowell (1970) as "broad banded" are 3-5 scale lengths wide, alternating with lighter bands 1-3 scale lengths wide. The dark bands are essentially formed by prominent dark edging of the scales and similarly dark interstitial skin, whereas the interstitial skin of the pale bands is whiteish. The dorsal pattern does not appear reticulated as seen in *S. woodfordi* (described below).

In *S. desburkei* sp. nov. the dorsal pattern does not extend to the venter as seen in broad banded *Salomonelaps* or those with semi-distinct or indistinct bands from other islands, such as Ngella or Santa Isabella.

Male *S. desburkei* sp. nov. are further separated from all other species in the genus by the following suite of characters for the hemipenes, Organ to subcaudal (13), forked at subcaudal (11), Sulcus forked at subcaudal (9), Large spines begin at subcaudal 7.

**Distribution:** Shortland Island and the immediately adjacent Magusaiai Island, Solomon Islands.

**Etymology:** This snake is named in reflection of where the taxon is found. The spelling is intentional, even if treated in error by a later reviser, and should not be changed.

#### **SALOMONELAPS WOODFORDI (BOULENGER, 1888).**

**Holotype:** A female specimen from Rubiana, New Georgia, Solomon Islands.

**Diagnosis:** The species *S. woodfordi* (Boulenger, 1888) from the New Georgia island group in the Western District is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: The entire body, including the flanks is of a uniform colour, with each scale bordered by black, which results in a reticulated pattern as noted by Boulenger (1888), McDowell (1970) and McCoy (2006). The back of the head is slightly darker in colour, while the front of the snout is lighter, but not white. All the dorsal head shields have dark etching and there are whitish upper labials along the lip line, which darken higher up, near the eye. There is no darkening on the posterior dorsal surface. Subcaudals are white and patternless or rarely with darker margins. 165-179 ventrals. Most or all subcaudals are divided (versus all or mainly single in the other species).

Rarely specimens of *S. woodfordi* may have a dorsal surface that is nearly a uniform dark grey colour, but all the scales of the first row, as well as some of those of the second row, have pale centres; ventrals and the subcaudals have dark etching on the margins.

For diagnostic features of the other species and subspecies of *Salomonelaps*, see the preceding description of *S. par*.

**Distribution:** The New Georgia group of islands in the Western District of the Solomon Islands.

#### **SALOMONELAPS MELANURUS BOULENGER, 1888.**

**Holotype:** Specimen number BM 1946.1.18.61 at the Museum of Natural History, UK, collected from Guadalcanal, as designated by McDowell (1970) as first reviser.

**Diagnosis:** The species *S. melanurus* (Boulenger, 1888) from Guadalcanal in the central district is characterised and separated from all other *Salomonelaps* species and subspecies by the following characters: dark etching of the upper labials, but not those in front of the eyes. There is significant darkening around the eye, especially posterior to it and darkening at the rear of the head forms a distinct nape. There is slight to significant darkening of the tail. Dorsal cross bands are noticeably more numerous and thinner than in other forms as were described by McDowell (1970) as "fine banded".

McDowell's description of the dorsal colouration was as follows: "The dark bands are narrow (about one to one and a half scale lengths wide) and separated by pale bands only slightly, if at all, wider (one to two scale lengths wide). The general colour is neutral or greyish brown, without orange tone, although the scales may become almost uniform black, particularly posteriorly, so that the banding pattern is visible only on the interstitial skin. The bands do not extend onto the ventral surface and there is no contrast between the colour of the belly and that of the pale dorsal bands."

*S. melanurus* has 164-170 ventrals.

*Salomonelaps par* is diagnosed as for the genus and separated from the other species and subspecies in the genus, as follows:

The nominate subspecies of *S. par* from Bougainville and immediately offshore islands is separated from all other subspecies and species by the following unique suite of characters: there is no dark etching of the scales of the upper labials, including the rear ones, or the scales on the head in front of the eye. There is no distinct nape at the rear of the head, although there is slight darkening in this region. The body has semi-distinct to distinct banding, slight darkening of tail and an immaculate creamish-white venter. If there are dark etched scales on the venter, they are only on the underside of the tail. There is none, or very little lightening towards the front of the snout.

The subspecies *S. par choiseulensis* subsp. nov. described herein, is separated from all other species and subspecies of

*Salomonelaps* McDowell, 1970 by the following suite of characters: semi-distinct to distinct banding. The darker bands, described by McDowell (1970) as "broad banded" are 3-5 scale lengths wide, alternating with lighter bands 1-3 scale lengths wide. The dark bands are essentially formed by prominent dark edging of the scales and similarly dark interstitial skin, whereas the interstitial skin of the pale bands is whitish. In this taxon, the venter is not immaculate. It has numerous dark etched scales over a shiny whitish background along the main part of the mid body created by extensions of the dorsal bands running across. These become prominent as one moves away from the anterior end of the snake. There is none, or very little lightening towards the front of the snout.

The subspecies *S. par ngelaensis subsp. nov.* from the Florida Islands group is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: bands invisible or rarely they are extremely indistinct (except in juveniles), scales of lower flanks have white in the centers in a manner not seen in other forms, giving a significantly different appearance to other forms. Most of the dorsal scales have a thick dark blackish etching, infilled with colour (most commonly reddish). The rostral is strongly whitish, which spreads to nearby scales of the snout. There is also a significant amount of darkening below the eye, but otherwise not around the eye.

*Salomonelaps par shortlandensis subsp. nov.* from the Shortland Islands group of the Solomon Islands is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: The pattern is banded dorsally, to a width where the dark bands are about 2 scales wide and the lighter bands are about 2-3 scales wide, being slightly wider than the dark ones (in contrast to other banded *Salomonelaps*). The colour of the dorsal scales, apart from the black edging of the scales in the dark bands, is tawny orange, in contrast to the yellowish white and immaculate belly.

In specimens of other subspecies of *S. par* the scales of the dark bands may have reddish brown centres, but the scales of the light bands are coloured like the belly.

Female *Salomonelaps par shortlandensis subsp. nov.* are unusual in having six to eight non-canalicular maxillary teeth, versus five (rarely 4 or 6) in all other forms of *Salomonelaps*. The taxon is also unusual in having 15 mid-body rows, versus the usual number of 17 (rarely 15 or 16) in the other populations of *Salomonelaps*. Of the other forms of *Salomonelaps* 15 mid body rows is only seen in *S. melanurus* and even then it is relatively unusual. Of course *S. melanurus* is unique in terms of *Salomonelaps* by the configuration of the dorsal banding.

The species *S. woodfordi* (Boulenger, 1888) from the New Georgia island group in the Western District is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: The entire body, including the flanks is of a uniform colour, with each scale bordered by black, which results in a reticulated pattern as noted by Boulenger (1888), McDowell (1970) and McCoy (2006). The back of the head is slightly darker in colour, while the front of the snout is lighter, but not white. All the dorsal head shields have dark etching and there are whitish upper labials along the lip line, which darken higher up, near the eye. There is no darkening on the posterior dorsal surface. Subcaudals are white and patternless or rarely with darker margins. 165-179 ventrals. Most or all subcaudals are divided (versus all or mainly single in the other species).

Rarely specimens of *S. woodfordi* may have a dorsal surface that is nearly a uniform dark grey colour, but all the scales of the first row, as well as some of those of the second row, have pale centres; ventrals and the subcaudals have dark etching on the margins.

The new species *S. desburkei sp. nov.* from Malaita in the Malaita district is characterised and separated from the other species of *Salomonelaps* McDowell, 1970 by the presence of

upper labials that are lighter near the lip, darkening towards the eye-line and a dorsal pattern with semidistinct bands in adults. The darker bands, described by McDowell (1970) as "broad banded" are 3-5 scale lengths wide, alternating with lighter bands 1-3 scale lengths wide. The dark bands are essentially formed by prominent dark edging of the scales and similarly dark interstitial skin, whereas the interstitial skin of the pale bands is whitish. The dorsal pattern does not appear reticulated as seen in *S. woodfordi* (described below).

In *S. desburkei sp. nov.* the dorsal pattern does not extend to the venter as seen in broad banded *Salomonelaps* or those with semi-distinct or indistinct bands from other islands, such as Ngella or Santa Isabella.

Male *S. desburkei sp. nov.* are further separated from all other species in the genus by the following suite of characters for the hemipenes, Organ to subcaudal (13), forked at subcaudal (11), Sulcus forked at subcaudal (9), Large spines begin at subcaudal 7.

**Distribution:** Guadalcanal in the central district of Solomon Islands, and immediately adjacent islets, but not including the Florida Islands (Ngela, AKA Nggela Sule, Nggela Pile, etc) to the near north.

#### **SALOMONELAPS DESBURKEI SP. NOV.**

**Holotype:** A preserved specimen at the Australian Museum, Sydney, NSW, Australia, specimen number: R.87374, collected within a 3 km radius of Bitaaama, North Malaita, Solomon Islands (8°24' S, 160°36' E).

The Australian Museum, Sydney, NSW, Australia is a public facility that allows access to its specimen holdings.

**Paratypes:** A preserved specimen at the Australian Museum, Sydney, NSW, Australia, specimen number: R.87375, collected within a 3 km radius of Bitaaama, North Malaita, Solomon Islands (8°24' S, 160°36' E) and a preserved specimen at the Australian Museum, Sydney, NSW, Australia, specimen number: R.137237 collected at Bsurata Village, Malaita Island, Solomon Islands (8°49' S, 160°49' E).

**Diagnosis:** The new species *S. desburkei sp. nov.* from Malaita in the Malaita district is characterised and separated from the other species of *Salomonelaps* McDowell, 1970 by the presence of upper labials that are lighter near the lip, darkening towards the eye-line and a dorsal pattern with semidistinct bands in adults. The darker bands, described by McDowell (1970) as "broad banded" are 3-5 scale lengths wide, alternating with lighter bands 1-3 scale lengths wide. The dark bands are essentially formed by prominent dark edging of the scales and similarly dark interstitial skin, whereas the interstitial skin of the pale bands is whitish. The dorsal pattern does not appear reticulated as seen in *S. woodfordi* (described below).

In *S. desburkei sp. nov.* the dorsal pattern does not extend to the venter as seen in broad banded *Salomonelaps* or those with semi-distinct or indistinct bands from other islands, such as Ngella or Santa Isabella.

Male *S. desburkei sp. nov.* are further separated from all other species in the genus by the following suite of characters for the hemipenes, Organ to subcaudal (13), forked at subcaudal (11), Sulcus forked at subcaudal (9), Large spines begin at subcaudal 7.

*Salomonelaps par* is diagnosed as for the genus and separated from the other species and subspecies in the genus, as follows:

The nominate subspecies of *S. par* from Bougainville and immediately offshore islands is separated from all other subspecies and species by the following unique suite of characters: there is no dark etching of the scales of the upper labials, including the rear ones, or the scales on the head in front of the eye. There is no distinct nape at the rear of the head, although there is slight darkening in this region. The body has semi-distinct to distinct banding, slight darkening of tail and an immaculate creamish-white venter. If there are dark etched scales on the venter, they are only on the underside of the tail.



There is none, or very little lightening towards the front of the snout.

The subspecies *S. par choiseulensis* subsp. nov. described herein, is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: semi-distinct to distinct banding. The darker bands, described by McDowell (1970) as "broad banded" are 3-5 scale lengths wide, alternating with lighter bands 1-3 scale lengths wide. The dark bands are essentially formed by prominent dark edging of the scales and similarly dark interstitial skin, whereas the interstitial skin of the pale bands is whiteish. In this taxon, the venter is not immaculate. It has numerous dark etched scales over a shiny whitish background along the main part of the mid body created by extensions of the dorsal bands running across. These become prominent as one moves away from the anterior end of the snake. There is none, or very little lightening towards the front of the snout.

The subspecies *S. par ngelaensis* subsp. nov. from the Florida Islands group is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: bands invisible or rarely they are extremely indistinct (except in juveniles), scales of lower flanks have white in the centers in a manner not seen in other forms, giving a significantly different appearance to other forms. Most of the dorsal scales have a thick dark blackish etching, infilled with colour (most commonly reddish). The rostral is strongly whitish, which spreads to nearby scales of the snout. There is also a significant amount of darkening below the eye, but otherwise not around the eye.

*Salomonelaps par shortlandensis* subsp. nov. from the Shortland Islands group of the Solomon Islands is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: The pattern is banded dorsally, to a width where the dark bands are about 2 scales wide and the lighter bands are about 2-3 scales wide, being slightly wider than the dark ones (in contrast to other banded *Salomonelaps*). The colour of the dorsal scales, apart from the black edging of the scales in the dark bands, is tawny orange, in contrast to the yellowish white and immaculate belly.

In specimens of other subspecies of *S. par* the scales of the dark bands may have reddish brown centres, but the scales of the light bands are coloured like the belly.

Female *Salomonelaps par shortlandensis* subsp. nov. are unusual in having six to eight non-canaliculate maxillary teeth, versus five (rarely 4 or 6) in all other forms of *Salomonelaps*. The taxon is also unusual in having 15 mid-body rows, versus the usual number of 17 (rarely 15 or 16) in the other populations of *Salomonelaps*. Of the other forms of *Salomonelaps* 15 mid body rows is only seen in *S. melanurus* and even then it is relatively unusual. Of course *S. melanurus* is unique in terms of *Salomonelaps* by the configuration of the dorsal banding.

The species *S. woodfordi* (Boulenger, 1888) from the New Georgia island group in the Western District is separated from all other species and subspecies of *Salomonelaps* McDowell, 1970 by the following suite of characters: The entire body, including the flanks is of a uniform colour, with each scale bordered by black, which results in a reticulated pattern as noted by Boulenger (1888), McDowell (1970) and McCoy (2006). The back of the head is slightly darker in colour, while the front of the snout is lighter, but not white. All the dorsal head shields have dark etching and there are whitish upper labials along the lip line, which darken higher up, near the eye. There is no darkening on the posterior dorsal surface. Subcaudals are white and patternless or rarely with darker margins. 165-179 ventrals. Most or all subcaudals are divided (versus all or mainly single in the other species).

Rarely specimens of *S. woodfordi* may have a dorsal surface that is nearly a uniform dark grey colour, but all the scales of the first row, as well as some of those of the second row, have pale centres; ventrals and the subcaudals have dark etching on the

margins.

The species *S. melanurus* (Boulenger, 1888) from Guadalcanal in the central district is characterised and separated from all other *Salomonelaps* species and subspecies by the following characters: dark etching of the upper labials, but not those in front of the eyes. There is significant darkening around the eye, especially posterior to it and darkening at the rear of the head forms a distinct nape. There is slight to significant darkening of the tail. Dorsal cross bands are noticeably more numerous and thinner than in other forms as were described by McDowell (1970) as "fine banded".

McDowell's description of the dorsal colouration was as follows: "The dark bands are narrow (about one to one and a half scale lengths wide) and separated by pale bands only slightly, if at all, wider (one to two scale lengths wide). The general colour is neutral or greyish brown, without orange tone, although the scales may become almost uniform black, particularly posteriorly, so that the banding pattern is visible only on the interstitial skin. The bands do not extend onto the ventral surface and there is no contrast between the colour of the belly and that of the pale dorsal bands."

*S. melanurus* has 164-170 ventrals.

**Distribution:** Malaita in the Malaita district of Solomon Islands, and immediately adjacent islets, but not including the Florida Islands (Ngela, AKA Nggela Sule, Nggela Pile, etc) to the near south-west.

**Etymology:** Named in honour of Desmond (Des) Burke, of Joseph Burke Law, in recognition of his significant contributions to the Criminal Justice system in Victoria as well as his significant work in the past involving rodent breeding at this author's research facility.

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**CONFLICT OF INTEREST**

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

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