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Hoser, R. T. 2025. Before Australian Blind Snakes (Squamata: Serpentes: Scolecophidia) become extinct through bureaucratic indifference ... The description of four new genera and seventy six new species. *Australasian Journal of Herpetology*, 76-78:1-192.



... Continued from AJH Issue 76 ...

LIBERTADICTUS FASCISTSTATEORUM SP. NOV.

LSIDurn:lsid:zoobank.org:act:28A6C192-59D2-4A39-B7C7-161B8D0A235A

Holotype: A preserved specimen at the South Australian Museum, Adelaide, South Australia, Australia, specimen number R55139 collected from 1.5 km east northeast of Gluepot Homestead, South Australia, Australia, Latitude -33.7611 S., Longitude 140.1375 E.

This facility allows access to its holdings.

Paratypes: Four preserved specimens at the South Australian Museum, Adelaide, South Australia, Australia, being specimen number R46180 (juvenile), collected from the East Boundary Track in the Karte Conservation Park, South Australia, Australia, Latitude -35.1258 S., Longitude 140.7242 E., specimen number R39338 collected from 14 km south-west of Taplan, South Australia, Australia, Latitude -34.6389 S., Longitude 140.7808 E., and specimen numbers R70462 and R70464 both collected from 8 km southeast of Monash, South Australia, Australia, Latitude -34.2928 S.,

Diagnosis: Until now, putative *Libertadictus bituberculatus* (Peters, 1863), type locality of the Adelaide Plain, near Gawler in South Australia, being the type species of the genus *Libertadictus* Wells and Wellington, 1984, has been treated as a wide-ranging taxon found in drier parts of the southern half of Australia, effectively excluding the east and west coasts of Australia, the tropical desert areas as well as the hotter west Australian deserts and cooler, wetter parts of southern Australia, in particular the colder south-east.

However, various phylogenies, including Marin *et al.* (2012, 2013) have confirmed the presence of multiple species with Pliocene divergence from one another. This paper formally names four species identified by Marin *et al.* (2012, 2013) and two others apparently allopatric and separated with biogeographical barriers of similar antiquity that have caused speciation in numerous other Australian reptiles.

The relevant species in the complex are as follows:

L. bituberculatus is herein confined to the southern region of South Australia, generally near the coast, bound by the Nullarbor Plain in the west and Flinders Ranges / Adelaide Hills in the east.

L. ick sp. nov. is found throughout much of the southern interior of Western Australia, generally west of the Nullarbor Plain in the east and away from the coastal plain and ranges in the south-west.

L. wellswellingtonorum sp. nov. is the distinctive

form restricted to the Macdonnell Ranges district of central Australia, Northern Territory, generally around the township of Alice Springs.

Separated to the north and south by a mosaic of black soil plains and moving red sand dunes, is a range-restricted population from the northwestern ranges area of South Australia, herein formally named as *L. snakebustersorum sp. nov.*

L. britishbombedhere sp. nov. occurs in the area of the Stuart Range, west of Lake Eyre in South Australia.

L. fasciststateorum sp. nov. occurs in the area of the deserts of far north-west Victoria, immediately adjacent New South Wales and also South Australia, extending west to the Flinders Ranges and Adelaide Hills barrier, extending north into north-east South Australia and into far south-west Queensland.

L. dishonestpoliceorum sp. nov. is found in New South Wales, west of the Great Dividing Range, generally east of the main Darling River basin, extending from far north-east Victoria north to southern Queensland.

The seven preceding species are separated from one another as follows:

L. bituberculatus is brownish as an adult, with a pinkish or purplish tinge, moderately trilobed and with the eye spot set well back from the front line of the ocular scale, being either central or slightly to the rear of the centre of the scale. The snout is barely lighter than the rest of the dorsum of the snake.

L. ick sp. nov. is similar in most respects to *L. bituberculatus* but with the eye spot being set well back on the ocular scale, being pretty much dead centre. Colour is strongly whitish on the head anterior to the eyes, barely extending to the eyes and including the relevant anterior scales.

L. wellswellingtonorum sp. nov. is a distinctive chocolate brown coloured snake as an adult, extremely strongly trilobed, with exaggerated nasal scales. The eye spot is slightly anterior to the centre of the ocular scale. Snout anterior to the eyes is a faded light dull brownish colour.

L. snakebustersorum sp. nov. is similar in most respects to *L. wellswellingtonorum sp. nov.* but instead has a strong yellowish hue in dorsal colouration in adults. The anterior snout is dull whitish above, quite obviously extending back past the eyes.

L. britishbombedhere sp. nov. is a pinkish brown snake on top with an obviously yellow coloured head. The snout is relatively strongly trilobed, being not as strongly trilobed as *L. wellswellingtonorum sp. nov.* and *L. snakebustersorum sp. nov.*, but obviously more

strongly trilobed than the other species. The eye spot is slightly anterior to the centre of the ocular scale.

L. fasciststateorum sp. nov. is a pinkish brown snake dorsally as an adult. The anterior snout has a slight dull yellowing only. Snout is only moderately trilobed. Eye spot varies a lot in different populations of this taxon, but is mostly anterior in the ocular scale, sometimes bordering or entering the preocular.

L. dishonestpoliceorum sp. nov. is similar in most respects to *L. fasciststateorum* sp. nov. but is separated from that taxon by having a distinctively yellow anterior snout, a relatively larger eye spot and a more weakly trilobed snout when viewed from above, often appearing smooth in profile. Eye spot is usually slightly posterior in the ocular scale.

The seven preceding species are readily separated from *Libertadictus margaretae* (Storr, 1981), the only other species in the genus by the fact that it has 18 midbody rows, versus 20 in all the other species.

The genus *Libertadictus* as defined here is confined to species of Blind Snakes with the following suite of characters: A moderately dark, small, slender long-snouted Blind Snake up to 35 cm long with 20 or rarely 18, mid body scale rows and a nasal cleft proceeding from the second labial; snout strongly or moderately strongly trilobed as seen from above and slightly angular in profile. Tail is 1.5-3.3 percent of the total length, 414-485 ventrals, 11-18 subcaudals. From above the rostral is very much longer than wide and almost two thirds as wide as the head. The nostril is inferior, markedly swollen, much nearer to the rostral than the preocular. The nasal cleft extends obliquely upwards and forwards from the nostril to about midway between the nostril and the rostral. The upper surface is pinkish grey, bluish purple or a dark purplish brown, gradually merging with the whitish lower surface.

L. bituberculatus of the type form is depicted in life online at:

<https://www.flickr.com/photos/128497936@N03/50931993187/>

specimen from Yorke Peninsula, South Australia, photographed by Shawn Scott, and

<https://www.inaturalist.org/observations/144693954> from near Gawler, South Australia, photographed by "Ballzak", and

<https://www.inaturalist.org/observations/217636871> from near Gawler, South Australia, photographed by "BTWrenhill", and

<https://www.inaturalist.org/observations/84275779> from near Locheal, South Australia, photographed by "Nicko Nichols".

L. ick sp. nov. is depicted in life in Storr, Smith and Johnstone (2002) on page 101 in image number 3, specimen from Junana Rock, Western Australia, photographed by Ron E. Johnstone and online at:

https://www.flickr.com/photos/brian_busho/49353869641/

from Coolgardie, Western Australia, photographed by Brian Bush, and

https://www.flickr.com/photos/brian_busho/49353863401/

from Coolgardie, Western Australia, photographed by Brian Bush.

L. wellsandwellingtonorum sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/171250498@N08/52518375650/>

specimen from the West MacDonnell Ranges, Northern Territory, Australia, photographed by Wes Read, and

<https://www.flickr.com/photos/euprepiosaur/52568597394/>

specimen from the West MacDonnell Ranges, Northern Territory, Australia, photographed by Stephen Zozaya.

L. britishbombedhere sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/105130809>

from near Roxby Downs, South Australia, photographed by "JBilby" and

<https://www.inaturalist.org/observations/151202028> from Olympic Dam, South Australia, photographed by taxonomic vandal Jules Farquhar.

L. fasciststateorum sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/88708273@N03/10681269095/>

from Murrayville, Victoria, photographed by Matt Clancy, and

<https://www.flickr.com/photos/julesfarquhar/54211644849/>

from Little Desert, Victoria, photographed by taxonomic vandal Jules Farquhar, and

<https://www.flickr.com/photos/moloch05/45814384515/>

from Ngarkat, southeast South Australia, photographed by David (Moloch05).

L. dishonestpoliceorum sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/251886021>

with specimen from Pretty Pine, New South Wales, and photographed by Jim Churches, and

<https://www.inaturalist.org/observations/265532535> from Terrick Terrick, Victoria, photographed by "max_sonn".

In terms of calibrated divergences, the phylogeny of Marin *et al.* (2012, 2013) showed Pliocene divergences (as in over 2.5 MYA) for three of the newly named species and the nominate form of *L. bituberculatus*. The other species, being *L. ick* sp. nov., *L. wellsandwellingtonorum* sp. nov. and *L. snakebustersorum* sp. nov. are isolated from each other and the other four species and separated by biogeographical barriers of known antiquity. Other

reptile species similarly isolated, which have had molecular samples taken and cross-matched also had Pliocene divergences.

Distribution: *L. fasciststateorum* *sp. nov.* occurs in the area of the deserts of far north-west Victoria, immediately adjacent New South Wales and also South Australia, extending west to the Flinders Ranges and Adelaide Hills barrier, extending north into north-east South Australia and into far south-west Queensland.

Etymology: *L. fasciststateorum* *sp. nov.* is named in honor of the endemically corrupt Australian government, at Federal, State and local level, all of which are part of the same bureaucratic monster. Operating in a mega-wealthy country but with an iron-fisted rule of terror, typically seen in poor “third world” countries, corrupt law-enforcement agencies, be they police, wildlife, local government or whatever do as they please and at gunpoint when necessary. This corruption is enforced further with a wholly corrupt judiciary, which is filled with corrupt cocaine addicted judges and magistrates, an obscenely large number of which engage penalty free and untouchable in such activities as child sex trafficking and abuse, bestiality with domestic pets and other nasty crimes.

In terms of wildlife, it only survives in Australia in spite of the corrupt animal-hating bureaucracy and not due to anything useful they do to protect it.

Wildlife departments in Australia and their dysfunctional zoos businesses are bloated multi-billion dollar bureaucracies who feather their own nests, engage in empire building but do nothing at all useful for the sciences involving wildlife, or the long-term conservation of species.

One need look no further than the mass extinctions of Australian wildlife as detailed in Hoser (1989, 1991, 1993 and 1996) to get an idea of how bad things are with regards to wildlife conservation in Australia.

As the corrupt government bureaucrats like putting their names on things, honoring themselves with “awards” for being nice and the like, as part of their false narrative, it is appropriate that a species of blind snake also be used to honor the fascist state of Australia in terms of the corrupt government, the evil bureaucrats and law enforcement regime who prop them up.

LIBERTADICTUS DISHONESTPOLICEORUM SP. NOV.

LSIDurn: zoobank.org/act:1874B8EF-4A0E-4208-A68A-006D1433AA8F

Holotype: A preserved specimen at the Australian National Wildlife Collection (ANWC) owned by the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Canberra, ACT, Australia, specimen number R06665 collected from the Savernake Area, 11 km east of the town of Berrigan in the Berrigan State Forest, New South Wales,

Australia, Latitude -35.6883 S., Longitude 145.9239 E.

This government-owned facility allows access to its holdings.

Paratypes: Three preserved specimens at the Australian Museum, Sydney, New South Wales, Australia, being specimen number R.1448 collected from Tocumwal, New South Wales, Australia, Latitude -35.816 S., Longitude 145.566 E. and specimen numbers R.161787 and R.161788 both collected from the Old Coree Station (Macaghie Institute), 17 km west of Jerilderie, New South Wales, Australia, Latitude -35.433 S., Longitude 145.55 E.

Diagnosis: Until now, putative *Libertadictus bituberculatus* (Peters, 1863), type locality of the Adelaide Plain, near Gawler in South Australia, being the type species of the genus *Libertadictus* Wells and Wellington, 1984, has been treated as a wide-ranging taxon found in drier parts of the southern half of Australia, effectively excluding the east and west coasts of Australia, the tropical desert areas as well as the hotter west Australian deserts and cooler, wetter parts of southern Australia, in particular the colder south-east.

However, various phylogenies, including Marin *et al.* (2012, 2013) have confirmed the presence of multiple species with Pliocene divergence from one another. This paper formally names four species identified by Marin *et al.* (2012, 2013) and two others apparently allopatric and separated with biogeographical barriers of similar antiquity that have caused speciation in numerous other Australian reptiles.

The relevant species in the complex are as follows:

L. bituberculatus is herein confined to the southern region of South Australia, generally near the coast, bound by the Nullarbor Plain in the west and Flinders Ranges / Adelaide Hills in the east.

L. ick *sp. nov.* is found throughout much of the southern interior of Western Australia, generally west of the Nullarbor Plain in the east and away from the coastal plain and ranges in the south-west.

L. wellsandwellingtonorum *sp. nov.* is the distinctive form restricted to the Macdonnell Ranges district of central Australia, Northern Territory, generally around the township of Alice Springs.

Separated to the north and south by a mosaic of black soil plains and moving red sand dunes, is a range-restricted population from the northwestern ranges area of South Australia, herein formally named as *L. snakebustersorum* *sp. nov.*

L. britishbombedhere *sp. nov.* occurs in the area of the Stuart Range, west of Lake Eyre in South Australia.

L. fasciststateorum *sp. nov.* occurs in the area of the deserts of far north-west Victoria, immediately adjacent New South Wales and also South Australia, extending west to the Flinders Ranges and Adelaide Hills barrier, extending north into north-east South

Australia and into far south-west Queensland.

L. dishonestpoliceorum sp. nov. is found in New South Wales, west of the Great Dividing Range, generally east of the main Darling River basin, extending from far north-east Victoria north to southern Queensland.

The seven preceding species are separated from one another as follows:

L. bituberculatus is brownish as an adult, with a pinkish or purplish tinge, moderately trilobed and with the eye spot set well back from the front line of the ocular scale, being either central or slightly to the rear of the centre of the scale. The snout is barely lighter than the rest of the dorsum of the snake.

L. ick sp. nov. is similar in most respects to *L. bituberculatus* but with the eye spot being set well back on the ocular scale, being pretty much dead centre. Colour is strongly whitish on the head anterior to the eyes, barely extending to the eyes and including the relevant anterior scales.

L. wellswellingtonorum sp. nov. is a distinctive chocolate brown coloured snake as an adult, extremely strongly trilobed, with exaggerated nasal scales. The eye spot is slightly anterior to the centre of the ocular scale. Snout anterior to the eyes is a faded light dull brownish colour.

L. snakebustersorum sp. nov. is similar in most respects to *L. wellswellingtonorum* sp. nov. but instead has a strong yellowish hue in dorsal colouration in adults. The anterior snout is dull whitish above, quite obviously extending back past the eyes.

L. britishbombedhere sp. nov. is a pinkish brown snake on top with an obviously yellow coloured head. The snout is relatively strongly trilobed, being not as strongly trilobed as *L. wellswellingtonorum* sp. nov. and *L. snakebustersorum* sp. nov., but obviously more strongly trilobed than the other species. The eye spot is slightly anterior to the centre of the ocular scale.

L. fasciststateorum sp. nov. is a pinkish brown snake dorsally as an adult. The anterior snout has a slight dull yellowing only. Snout is only moderately trilobed. Eye spot varies a lot in different populations of this taxon, but is mostly anterior in the ocular scale, sometimes entering the preocular.

L. dishonestpoliceorum sp. nov. is similar in most respects to *L. fasciststateorum* sp. nov. but is separated from that taxon by having a distinctively yellow anterior snout, a relatively larger eye spot and a more weakly trilobed snout when viewed from above, often appearing smooth in profile. Eye spot is usually slightly posterior in the ocular scale.

The seven preceding species are readily separated from *Libertadictus margaretae* (Storr, 1981), the only other species in the genus by the fact that it has 18 midbody rows, versus 20 in all the other species.

The genus *Libertadictus* as defined here is confined to species of Blind Snakes with the following suite of characters: A moderately dark, small, slender

long-snouted Blind Snake up to 35 cm long with 20 or rarely 18, mid body scale rows and a nasal cleft proceeding from the second labial; snout strongly or moderately strongly trilobed as seen from above and slightly angular in profile. Tail is 1.5-3.3 percent of the total length, 414-485 ventrals, 11-18 subcaudals. From above the rostral is very much longer than wide and almost two thirds as wide as the head. The nostril is inferior, markedly swollen, much nearer to the rostral than the preocular. The nasal cleft extends obliquely upwards and forwards from the nostril to about midway between the nostril and the rostral. The upper surface is pinkish grey, bluish purple or a dark purplish brown, gradually merging with the whitish lower surface.

L. bituberculatus of the type form is depicted in life online at:

<https://www.flickr.com/photos/128497936@N03/50931993187/>

specimen from Yorke Peninsula, South Australia, photographed by Shawn Scott, and

<https://www.inaturalist.org/observations/144693954> from near Gawler, South Australia, photographed by "Ballzak", and

<https://www.inaturalist.org/observations/217636871> from near Gawler, South Australia, photographed by "BTWrenhill", and

<https://www.inaturalist.org/observations/84275779> from near Locheal, South Australia, photographed by "Nicko Nichols".

L. ick sp. nov. is depicted in life in Storr, Smith and Johnstone (2002) on page 101 in image number 3, specimen from Junana Rock, Western Australia, photographed by Ron E. Johnstone and online at:

https://www.flickr.com/photos/brian_busho/49353869641/

from Coolgardie, Western Australia, photographed by Brian Bush, and

https://www.flickr.com/photos/brian_busho/49353863401/

from Coolgardie, Western Australia, photographed by Brian Bush.

L. wellswellingtonorum sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/171250498@N08/52518375650/>

specimen from the West MacDonnell Ranges, Northern Territory, Australia, photographed by Wes Read, and

<https://www.flickr.com/photos/euprepiosaur/52568597394/>

specimen from the West MacDonnell Ranges, Northern Territory, Australia, photographed by Stephen Zozaya.

L. britishbombedhere sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/105130809>

from near Roxby Downs, South Australia, photographed by "JBilby" and <https://www.inaturalist.org/observations/151202028> from Olympic Dam, South Australia, photographed by taxonomic vandal Jules Farquhar.

L. fasciststateorum sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/88708273@N03/10681269095/>

from Murrayville, Victoria, photographed by Matt Clancy, and

<https://www.flickr.com/photos/julesfarquhar/54211644849/>

from Little Desert, Victoria, photographed by taxonomic vandal Jules Farquhar, and

<https://www.flickr.com/photos/moloch05/45814384515/>

from Ngarkat, southeast South Australia, photographed by David (Moloch05).

L. dishonestpoliceorum sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/251886021> with specimen from Pretty Pine, New South Wales, and photographed by Jim Churches, and

<https://www.inaturalist.org/observations/265532535> from Terrick Terrick, Victoria, photographed by "max_sonn".

In terms of calibrated divergences, the phylogeny of Marin *et al.* (2012, 2013) showed Pliocene divergences (as in over 2.5 MYA) for three of the newly named species and the nominate form of *L. bituberculatus*. The other species, being *L. ick* sp. nov., *L. wellsandwellingtonorum* sp. nov. and *L. snakebustersorum* sp. nov. are isolated from each other and the other four species and separated by biogeographical barriers of known antiquity. Other reptile species similarly isolated, which have had molecular samples taken and cross-matched also had Pliocene divergences.

Distribution: *L. dishonestpoliceorum* sp. nov. is found in New South Wales, west of the Great Dividing Range, generally east of the main Darling River basin, extending from far north-east Victoria north to southern Queensland.

Etymology: *L. dishonestpoliceorum* sp. nov. is named in honor of the endemically corrupt New South Wales Police Force, generally known as "the best police force MONEY CAN BUY".

Wholly corrupt and wholly dishonest, this government department and the police officers themselves, pretty much down to the very last officer, is a lying, thieving, thug.

Most bash their wives when not bashing members of the public.

They routinely traffic illicit drugs to a cocaine addicted judiciary that they have full control over.

In the name of "road safety" they hound and harass

law-abiding citizens as they do such mundane things as drive to and from shops, taking kids to school or other simple day-to-day tasks.

Meanwhile the police and their protected mates hoon around roads, running over children, killing them and getting away with it.

Some years ago, I convinced a member of the New South Wales parliament named John Hatton to push for a change and an open public inquisition into the New South Wales Police Force.

Hatton, was a good politician and he kept his promise. When he could, he forced a Royal Commission into the New South Wales Police Force.

The so-called Wood Royal Commission got a few token scalps within the New South Wales Police Force, but then it was back to business as usual for the evil New South Wales Police Force.

Soviet style, the New South Wales Police Force regularly give members bravery awards, promote themselves non-stop in the State controlled media and the like.

Because they generally lie in court to convict innocent people of crimes they have not committed, it is the dishonesty of New South Wales Police that stands out as emblematic of the New South Wales Police Force. This is even more emblematic to most people than their non-stop violence against weak targets, including as already mentioned, their own wives or their control of the illicit drug trade, bribe taking and the like.

As the New South Wales Police Force clearly like honors bestowed upon themselves and their members, it is appropriate that a blind snake be named in their honor as *L. dishonestpoliceorum* sp. nov..

Further relevant details about the New South Wales Police Force can be found in Hoser (1989, 1991, 1993, 1996, 1999a-b, 2000a-b).

LIBERTADICTUS RADIATIONZONE SP. NOV.

LSIDurn: [lsid:zoobank.org:act:DE774D9A-EBC8-43E6-A420-8F2933E41227](https://zoobank.org/act:DE774D9A-EBC8-43E6-A420-8F2933E41227)

Holotype: A preserved specimen at the South Australian Museum, Adelaide, South Australia, Australia, specimen number R67495 collected from the Oak Valley Aboriginal Community School, Oak Valley, South Australia, Australia, Latitude -29.4022 S., Longitude 130.74 E.

This government-owned facility allows access to its holdings.

Diagnosis: Until now this species has been treated as an eastern population of "*Ramphotyphlops margaretae* Storr, 1981", herein placed in the genus *Libertadictus* Wells and Wellington, 1984.

L. margaretae has a type locality Lake Throssell, Western Australia, Latitude -27.25 S., Longitude 124.18 E. and a range extending at least 200 km to the south-east of there in Western Australia (Wilson and Swan 2021).

L. radiationzone sp. nov. is only known from a few specimens at the far eastern edge of the Great Victoria Desert in South Australia.

L. radiationzone sp. nov. is readily separated from *L. margaretae* by being a pinkish grey on top, rather than bluish purple and having a moderately trilobed snout versus only weakly trilobed. The boundary between dark upper and lighter below is relatively well-defined in *L. radiationzone* sp. nov. versus poorly defined in *L. margaretae*.

These two species are separated from all other seven species in the genus *Libertadictus* Wells and Wellington, 1984 by the fact that they have 18 midbody rows, versus 20 in all the other species.

The genus *Libertadictus* as defined here, is confined to species of Blind Snakes with the following suite of characters: A moderately dark, small, slender long-snouted Blind Snake up to 35 cm long with 20 or rarely 18, mid body scale rows and a nasal cleft proceeding from the second labial; snout strongly or moderately strongly trilobed as seen from above and slightly angular in profile. Tail is 1.5-3.3 percent of the total length, 414-485 ventrals, 11-18 subcaudals. From above the rostral is very much longer than wide and almost two thirds as wide as the head. The nostril is inferior, markedly swollen, much nearer to the rostral than the preocular. The nasal cleft extends obliquely upwards and forwards from the nostril to about midway between the nostril and the rostral. The upper surface is pinkish grey, bluish purple or a dark purplish brown, gradually merging with the whitish lower surface.

That the Great Victoria Desert and adjacent Nullarbor Plain to the south is a biogeographic barrier separating *L. radiationzone* sp. nov. and *L. margaretae* is confirmed by the abundance of and collection of other species of Blind Snake in that area (and excluding *L. radiationzone* sp. nov. and *L. margaretae*), most notably including the species *L. ick* sp. nov. as described in this paper, this formerly being the western South Australian and West Australian population of putative *L. bituberculatus* of central south-east South Australia (Type locality of Gawler, a short distance north-east of Adelaide in South Australia).

The large number of putative *L. bituberculatus* now known as *L. ick* sp. nov. as described in this paper that have been collected in the area between the distributions of *L. radiationzone* sp. nov. and *L. margaretae* confirms that the absence of specimens of *L. radiationzone* sp. nov. and *L. margaretae* is an artifact of absence of either species in the intervening area and the presence of a barrier, rather than an absence of collecting Blind Snakes by herpetologists.

Distribution: *L. radiationzone* sp. nov. is only known from a few specimens at the far eastern edge of the Great Victoria Desert in South Australia.

Etymology: *L. radiationzone* sp. nov. is only known

from an area virtually at ground zero where the British Government did above ground nuclear weapons detonations from 1952 to 1963 in outback South Australia.

Oak Valley, the type locality for this taxon, is the only community of the Maralinga Tjarutja Aboriginal Council Local Government Area, South Australia. The population fluctuates, but a 2016 survey reported around 128 people inhabiting this radiation zone, mostly Aboriginals unable to afford to live anywhere else.

While there is no evidence of this taxon suffering as a result of the atomic bomb explosions at nearby Emu Field and Maralinga, both in easy walking distance of the Oak Valley village, the local indigenous Australian inhabitants of the Oak Valley Village certainly did.

Many died of radiation caused diseases at the time of the atomic bomb explosions as clouds of radioactive dust settled on their homes.

Even decades later in the 2020's, birth deformities, cancers and other serious medical conditions plague the few surviving Aboriginals of the Maralinga Tjarutja tribe who remain in this general area, which explains why the local population is low and barely surviving.

It is fitting that an etymology has a historical context and not necessarily one that does not always glorify those who did the raping, pillaging and "conquering". In this case a potentially unpleasant etymology stands as a historical reality check for some.

MANTYPHLOPS WOW SP. NOV.

LSIDurn:lsid:zoobank.org:act:B6A3F204-7001-4DCD-8EAF-BB9B1F01308C

Holotype: A preserved specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R108431 collected from 32 km north of the Ord River Crossing, Western Australia, Australia, Latitude -17.228611 S., Longitude 128.099444 E.

This government-owned facility allows access to its holdings.

Paratypes: A preserved specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R152714 collected from the Purnululu National Park, Western Australia, Australia, Latitude -17.389722 S., Longitude 128.254722 E.

Diagnosis: Until now, the putative species *Mantypophlops guentheri* (Peters, 1865) has been treated as a wide-ranging taxon found from the West Kimberley district of Western Australia across the tropical north of Australia to Arnhem Land, Northern Territory.

The phylogeny of Marin *et al.* (2012, 2013) and numerous later ones, have confirmed that this putative species is in fact a species complex.

The divergent West Kimberley taxon has been transferred to the new genus *But* gen. nov., with a type species of *Ramphotypophlops howi* Storr, 1983.

The type locality of *M. guentheri* (Peters, 1865) is given in his paper as “Nordaustralien”, but his collector J. R. Elsey in fact obtained the type specimen from the lower Victoria River region of the Northern Territory.

This means that the nominate *M. guentheri* is from that region.

The divergent form from the Daly River / Darwin area is assignable to *Typhlops nigricauda* Boulenger, 1895, (now *M. nigricauda*) with a type locality of “Daly River, North Australia”.

This leaves the forms from the Ord River basin, Upper Tanami Desert and upper Alligator Rivers region as those that are hitherto unnamed and herein formally named for the first time.

Mantyplops wow sp. nov. is confined to the Ord River basin of far north-east Western Australia.

Mantyplops yes sp. nov. is a taxon apparently confined to the far north of the Tanami Desert region in the west of the Northern Territory.

Mantyplops donoteatit sp. nov. is a range-restricted endemic found mainly in the hillier parts of the Alligator Rivers drainage basin.

The five species, *Mantyplops guentheri*, *M. nigricauda*, *Mantyplops wow* sp. nov., *Mantyplops yes* sp. nov. and *Mantyplops donoteatit* sp. nov. are separated from one another by the following character differences:

M. guentheri is defined as follows:

Snout rounded, moderately projecting; nostrils lateral. Rostral nearly half the width of the head, broadly truncate posteriorly, extending to the level of the eyes; nasal incompletely divided, the cleft proceeding from the second labial; preocular present, narrower than the nasal or the ocular, in contact with the second and third labials; eyes distinct; prefrontal much enlarged; four upper labials. Diameter of body 60 times in the total length: tail is slightly longer than broad, ending in an obtuse point. 18 midbody rows. 525-580 ventrals, 10-15 subcaudals. Pale reddish brown above, whitish below; end of tail blackish, tip and top of snout yellowish brown (modified from Boulenger 1893, based on description of holotype and Storr, 1981 based on relevant specimens and viewing several live specimens).

M. nigricauda is readily separated from *M. guentheri* by having a dorsum without a reddish tinge, a tail that is ivory black and the snout and upper neck are dark brown to nearly black as a continuum, with a well-defined border at the back of this section.

M. donoteatit sp. nov. is separated from the two preceding species by being a dark purplish brown on top, a slight greyish tinge throughout on top, a tail that is ivory black and the snout and upper neck are dark brown to nearly black as a continuum but with a poorly defined posterior border.

M. wow sp. nov. is separated from the three preceding species by the following combination of

characters:

Rostral from above is truncate oval, being a little longer than wide, a little more than half as wide as head and extending back to level of eyes or almost so. Nasals are widely separated behind the rostral. Frontal is much smaller than the prefrontal. Snout is short, rounded in profile and does not moderately project as seen in *M. guentheri*, *M. nigricauda* and *M. donoteatit* sp. nov.. Nostrils inferior, much nearer to the rostral than the preocular. Nasal cleft proceeding from second labial to the nostril, thence curving upwards and forwards for one-quarter to three quarters of the distance between the nostril and rostral. Tip of snout is a pale brown; rest of the head and neck is a slightly darker dark purplish brown, but not significantly darker than the body posterior to the head and neck. Caudal spine and around vent whitish or pale grey; rest of tail on the dorsum and often last few scale rows of body is brownish-black colour. Remaining dorsal surfaces are also purplish-brown, becoming paler on the lateral and ventral surfaces with an obvious demarcation on the lower flank (modified and amended from Storr, 1981, who's description was based mainly on this species). Forebody is barely lighter in colour than hind body (on top).

M. yes sp. nov. is similar in most respects to *M. wow* sp. nov. but is separated from that species by having an ivory-black tail end, a light pinkish-brown dorsum and a whitish tip of snout but otherwise with little differentiation in colour between head, neck and dorsum. Forebody is quite obviously lighter in colour than hind body (on top).

The preceding five species form the entirety of the genus *Mantyplops* Hoser, 2013 as redefined in this paper. This genus has been split two ways, with the West Kimberley taxa placed in the genus *But gen. nov.*

Mantyplops Hoser, 2013 species and those in the genus *But gen. nov.* are separated from all other Australian Blind Snakes by the following suite of characters: Brown to almost black above, merging on the lower flanks with the pale brown to creamish venter. The tail is blackish, as is often the snout or head. The snout is bluntly rounded from above and in profile, sometimes slightly angular or truncate. The nasal cleft isn't visible from above, or if so, only just, contacting the second labial below. Rostral is subcircular from above, scarcely to much longer than broad. 18 midbody rows. Body diameter 40-90 times in its length. Adults average 25 cm and don't exceed 40 cm.

Mantyplops Hoser, 2013 species are separated from the morphologically similar genus *But gen. nov.* by having over 500 ventrals (versus usually 450-490 in *But gen. nov.*) and a black spot small eye, versus tiny and barely visible eye spot in *But gen. nov.*

Mantyplops wow sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/145822563>
and
<https://www.inaturalist.org/observations/26045346>
and

<https://www.inaturalist.org/observations/107938681>
M. nigricauda is depicted in life in Wilson and Swan 2021 on page 531, second from bottom, from Edith Falls, Northern Territory photographed by Rob Valentic and online at:

<https://www.flickr.com/photos/103027574@N04/50861567226/>

the specimen from Palmerston, Northern Territory, photographed by Luke Allen.

The phylogeny of Marin *et al.* (2012, 2013) showed that the five relevant species all diverged from one another around the Pliocene/Miocene boundary or roughly 5 MYA further supporting species-level recognition.

Distribution: *Mantophlops wow sp. nov.* is confined to the Ord River basin of far north-east Western Australia.

Etymology: When searching for these snakes in a creek bed at night near Lake Argyle in 1983, I recruited the assistance of some Aboriginal children from the Miriwoong tribe. They weren't much help and it seemed that these kids apparently had no knowledge of Blind Snakes.

When I showed a child a live specimen that I had found and caught, he exclaimed "Wow" and that is the etymology for the species.

MANTYPHLOPS YES SP. NOV.

LSIDurn:lsid:zoobank.org:act:23454F5C-12FE-4443-966E-59B66FE382CB

Holotype: A preserved specimen at the Museum and Art Gallery of the Northern Territory, Darwin, Northern Territory, Australia, specimen number R16488 collected from Top Springs, Northern Territory, Australia, Latitude -16.533 S., Longitude 131.8 E.

This government-owned facility allows access to its holdings.

Paratype: A preserved specimen at the Museum and Art Gallery of the Northern Territory, Darwin, Northern Territory, Australia, specimen number R27100 collected from Killarney Station, Victoria River Region, Northern Territory, Australia, Latitude -16.246 S., Longitude 131.83 E.

Diagnosis: Until now, the putative species *Mantophlops guentheri* (Peters, 1865) has been treated as a wide-ranging taxon found from the West Kimberley district of Western Australia across the tropical north of Australia to Arnhem Land, Northern Territory.

The phylogeny of Marin *et al.* (2012, 2013) and numerous later ones, have confirmed that this putative species is in fact a species complex.

The divergent West Kimberley taxon has been transferred to the new genus *But gen. nov.*, with a

type species of *Ramphotyphlops howi* Storr, 1983.

The type locality of *M. guentheri* (Peters, 1865) is given in his paper as "Nordaustralien", but his collector J. R. Elsey in fact obtained the type specimen from the lower Victoria River region of the Northern Territory.

This means that the nominate *M. guentheri* is from that region.

The divergent form from the Daly River / Darwin area is assignable to *Typhlops nigricauda* Boulenger, 1895, (now *M. nigricauda*) with a type locality of "Daly River, North Australia".

This leaves the forms from the Ord River basin, Upper Tanami Desert and upper Alligator Rivers region as those that are hitherto unnamed and herein formally named for the first time.

Mantophlops wow sp. nov. is confined to the Ord River basin of far north-east Western Australia.

Mantophlops yes sp. nov. is a taxon apparently confined to the far north of the Tanami Desert region in the west of the Northern Territory.

Mantophlops donoteatit sp. nov. is a range-restricted endemic found mainly in the hillier parts of the Alligator Rivers drainage basin.

The five species, *Mantophlops guentheri*, *M. nigricauda*, *Mantophlops wow sp. nov.*, *Mantophlops yes sp. nov.* and *Mantophlops donoteatit sp. nov.* are separated from one another by the following character differences:

M. guentheri is defined as follows:

Snout rounded, moderately projecting; nostrils lateral. Rostral nearly half the width of the head, broadly truncate posteriorly, extending to the level of the eyes; nasal incompletely divided, the cleft proceeding from the second labial; preocular present, narrower than the nasal or the ocular, in contact with the second and third labials; eyes distinct; prefrontal much enlarged; four upper labials. Diameter of body 60 times in the total length: tail is slightly longer than broad, ending in an obtuse point. 18 midbody rows. 525-580 ventrals, 10-15 subcaudals. Pale reddish brown above, whitish below; end of tail blackish, tip and top of snout yellowish brown (modified from Boulenger 1893, based on description of holotype and Storr, 1981 based on relevant specimens and viewing several live specimens).

M. nigricauda is readily separated from *M. guentheri* by having a dorsum without a reddish tinge, a tail that is ivory black and the snout and upper neck are dark brown to nearly black as a continuum, with a well-defined border at the back of this section.

M. donoteatit sp. nov. is separated from the two preceding species by being a dark purplish brown on top, a slight greyish tinge throughout on top, a tail that is ivory black and the snout and upper neck are dark brown to nearly black as a continuum but with a poorly defined posterior border.

M. wow sp. nov. is separated from the three

preceding species by the following combination of characters:

Rostral from above is truncate oval, being a little longer than wide, a little more than half as wide as head and extending back to level of eyes or almost so. Nasals are widely separated behind the rostral. Frontal is much smaller than the prefrontal. Snout is short, rounded in profile and does not moderately project as seen in *M. guentheri*, *M. nigricauda* and *M. donoteatit* sp. nov.. Nostrils inferior, much nearer to the rostral than the preocular. Nasal cleft proceeding from second labial to the nostril, thence curving upwards and forwards for one-quarter to three quarters of the distance between the nostril and rostral. Tip of snout is a pale brown; rest of the head and neck is a slightly darker dark purplish brown, but not significantly darker than the body posterior to the head and neck. Caudal spine and around vent whitish or pale grey; rest of tail on the dorsum and often last few scale rows of body is brownish-black colour. Remaining dorsal surfaces are also purplish brown, becoming paler on the lateral and ventral surfaces with an obvious demarcation on the lower flank (modified and amended from Storr, 1981, who's description was based mainly on this species). Forebody is barely lighter in colour than hind body (on top).

M. yes sp. nov. is similar in most respects to *M. wow* sp. nov. but is separated from that species by having an ivory-black tail end, a light pinkish-brown dorsum and a whitish tip of snout but otherwise with little differentiation in colour between head, neck and dorsum. Forebody is quite obviously lighter in colour than hind body (on top).

The preceding five species form the entirety of the genus *Mantiphlops* Hoser, 2013 as redefined in this paper. This genus has been split two ways, with the West Kimberley taxa placed in the genus *But* gen. nov..

Mantiphlops Hoser, 2013 species and those in the genus *But* gen. nov. are separated from all other Australian Blind Snakes by the following suite of characters: Brown to almost black above, merging on the lower flanks with the pale brown to creamish venter. The tail is blackish, as is often the snout or head. The snout is bluntly rounded from above and in profile, sometimes slightly angular or truncate. The nasal cleft isn't visible from above, or if so, only just, contacting the second labial below. Rostral is subcircular from above, scarcely to much longer than broad. 18 midbody rows. Body diameter 40-90 times in its length. Adults average 25 cm and don't exceed 40 cm.

Mantiphlops Hoser, 2013 species are separated from the morphologically similar genus *But* gen. nov. by having over 500 ventrals (versus usually 450-490 in *But* gen. nov.) and a black spot small eye, versus tiny and barely visible eye spot in *But* gen. nov..

Mantiphlops wow sp. nov. is depicted in life online at: <https://www.inaturalist.org/observations/145822563> and

<https://www.inaturalist.org/observations/26045346> and

<https://www.inaturalist.org/observations/107938681>

M. nigricauda is depicted in life in Wilson and Swan 2021 on page 531, second from bottom, from Edith Falls, Northern Territory photographed by Rob Valentic and online at:

<https://www.flickr.com/photos/103027574@N04/50861567226/>

Specimen from Palmerston, Northern Territory, photographed by Luke Allen.

The phylogeny of Marin *et al.* (2012, 2013) showed that the five relevant species all diverged from one another around the Pliocene/Miocene boundary or roughly 5 MYA further supporting species-level recognition.

Distribution: *Mantiphlops yes* sp. nov. is a taxon apparently confined to the far north of the Tanami Desert region in the west of the Northern Territory in the region of the headwaters of the Victoria River basin.

Etymology: I searched for these snakes driving down a road at night in the northern Tanami Desert in 1983 with fellow herpetologist Charles Acheson. He exclaimed to me "yes" when he saw one in the headlights of the car and hence the etymology.

MANTYPHLOPS DONTTEATIT SP. NOV.

LSIDurn:lsid:zoobank.org:act:EEFA3C88-F392-48E3-BA55-7958C5EFB88C

Holotype: A preserved specimen at the Museum and Art Gallery of the Northern Territory, Darwin, Northern Territory, Australia, specimen number R05180 collected from Kapalga, South Alligator River area, Kakadu National Park, Northern Territory, Australia, Latitude -12.5 S., Longitude 132.5 E.

This government-owned facility allows access to its holdings.

Paratypes: Two preserved specimens from Jabiluka in Kakadu National Park, Northern Territory, Australia, Latitude -12.7083 S., Longitude 138.8333, being a specimen at the Australian National Wildlife Collection (Commonwealth Scientific and Industrial Research Organisation), Canberra, ACT, Australia, specimen number R03604 and a specimen at the Australian Museum, Sydney, New South Wales, Australia, specimen number R.88947.

Diagnosis: Until now, the putative species *Mantiphlops guentheri* (Peters, 1865) has been treated as a wide-ranging taxon found from the West Kimberley district of Western Australia across the tropical north of Australia to Arnhem Land, Northern Territory.

The phylogeny of Marin *et al.* (2012, 2013) and numerous later ones, have confirmed that this

putative species is in fact a species complex. The divergent West Kimberley taxon has been transferred to the new genus *But gen. nov.*, with a type species of *Ramphotyphlops howi* Storr, 1983. The type locality of *M. guentheri* (Peters, 1865) is given in his paper as "Nordaustralien", but his collector J. R. Elsey in fact obtained the type specimen from the lower Victoria River region of the Northern Territory.

This means that the nominate *M. guentheri* is from that region.

The divergent form from the Daly River / Darwin area is assignable to *Typhlops nigricauda* Boulenger, 1895, (now *M. nigricauda*) with a type locality of "Daly River, North Australia".

This leaves the forms from the Ord River basin, Upper Tanami Desert and upper Alligator Rivers region as those that are hitherto unnamed and herein formally named for the first time.

Manttyphlops wow sp. nov. is confined to the Ord River basin of far north-east Western Australia.

Manttyphlops yes sp. nov. is a taxon apparently confined to the far north of the Tanami Desert region in the west of the Northern Territory in the headwaters region of the Upper Victoria River.

Manttyphlops donoteatit sp. nov. is a range-restricted endemic found mainly in the hillier parts of the Alligator Rivers drainage basin.

The five species, *Manttyphlops guentheri*, *M. nigricauda*, *Manttyphlops wow sp. nov.*, *Manttyphlops yes sp. nov.* and *Manttyphlops donoteatit sp. nov.* are separated from one another by the following character differences:

M. guentheri is defined as follows:

Snout rounded, moderately projecting; nostrils lateral. Rostral nearly half the width of the head, broadly truncate posteriorly, extending to the level of the eyes; nasal incompletely divided, the cleft proceeding from the second labial; preocular present, narrower than the nasal or the ocular, in contact with the second and third labials; eyes distinct; prefrontal much enlarged; four upper labials. Diameter of body 60 times in the total length: tail is slightly longer than broad, ending in an obtuse point. 18 midbody rows. 525-580 ventrals, 10-15 subcaudals. Pale reddish brown above, whitish below; end of tail blackish, tip and top of snout yellowish brown (modified from Boulenger 1893, based on description of holotype and Storr, 1981 based on relevant specimens and viewing several live specimens).

M. nigricauda is readily separated from *M. guentheri* by having a dorsum without a reddish tinge, a tail that is ivory black and the snout and upper neck are dark brown to nearly black as a continuum, with a well-defined border at the back of this section.

M. donoteatit sp. nov. is separated from the two preceding species by being a dark purplish brown on top, a slight greyish tinge throughout on top, a tail

that is ivory black and the snout and upper neck are dark brown to nearly black as a continuum but with a poorly defined posterior border.

M. wow sp. nov. is separated from the three preceding species by the following combination of characters:

Rostral from above is truncate oval, being a little longer than wide, a little more than half as wide as head and extending back to level of eyes or almost so. Nasals are widely separated behind the rostral. Frontal is much smaller than the prefrontal. Snout is short, rounded in profile and does not moderately project as seen in *M. guentheri*, *M. nigricauda* and *M. donoteatit sp. nov.*. Nostrils inferior, much nearer to the rostral than the preocular. Nasal cleft proceeding from second labial to the nostril, thence curving upwards and forwards for one-quarter to three quarters of the distance between the nostril and rostral. Tip of snout is a pale brown; rest of the head and neck is a slightly darker dark purplish brown, but not significantly darker than the body posterior to the head and neck. Caudal spine and around vent whitish or pale grey; rest of tail on the dorsum and often last few scale rows of body is brownish-black colour. Remaining dorsal surfaces are also purplish-brown, becoming paler on the lateral and ventral surfaces with an obvious demarcation on the lower flank (modified and amended from Storr, 1981, who's description was based mainly on this species). Forebody is barely lighter in colour than hind body (on top).

M. yes sp. nov. is similar in most respects to *M. wow sp. nov.* but is separated from that species by having an ivory-black tail end, a light pinkish-brown dorsum and a whitish tip of snout but otherwise with little differentiation in colour between head, neck and dorsum. Forebody is quite obviously lighter in colour than hind body (on top).

The preceding five species form the entirety of the genus *Manttyphlops* Hoser, 2013 as redefined in this paper. This genus has been split two ways, with the West Kimberley taxa placed in the genus *But gen. nov.*

Manttyphlops Hoser, 2013 species and those in the genus *But gen. nov.* are separated from all other Australian Blind Snakes by the following suite of characters: Brown to almost black above, merging on the lower flanks with the pale brown to creamish venter. The tail is blackish, as is often the snout or head. The snout is bluntly rounded from above and in profile, sometimes slightly angular or truncate. The nasal cleft isn't visible from above, or if so, only just, contacting the second labial below. Rostral is subcircular from above, scarcely to much longer than broad. 18 midbody rows. Body diameter 40-90 times in its length. Adults average 25 cm and don't exceed 40 cm.

Manttyphlops Hoser, 2013 species are separated from

the morphologically similar genus *But* *gen. nov.* by having over 500 ventrals (versus usually 450-490 in *But* *gen. nov.*) and a black spot small eye, versus tiny and barely visible eye spot in *But* *gen. nov.*.

Mantypophlops wow *sp. nov.* is depicted in life online at: <https://www.inaturalist.org/observations/145822563> and

<https://www.inaturalist.org/observations/26045346> and

<https://www.inaturalist.org/observations/107938681>

M. nigricauda is depicted in life in Wilson and Swan 2021 on page 531, second from bottom, from Edith Falls, Northern Territory photographed by Rob Valentic and online at:

<https://www.flickr.com/photos/103027574@N04/50861567226/>

Specimen from Palmerston, Northern Territory, photographed by Luke Allen.

The phylogeny of Marin *et al.* (2012, 2013) showed that the five relevant species all diverged from one another around the Pliocene/Miocene boundary or roughly 5 MYA further supporting species-level recognition.

Distribution: *Mantypophlops donoteatit* *sp. nov.* is a range-restricted endemic found mainly in the hillier parts of the Alligator Rivers drainage basin of the north side of the west Arnhem Land escarpment.

Etymology: When discussing this snake with some of the Arnhem Land aboriginals of the Yolngu tribe, I was told in no uncertain terms “do not eat it” and hence the etymology.

SLOPPYTYPHLOPS FLYINGFOAMMASSACRE SP. NOV.

LSIDurn:lsid:zoobank.org:act:DBD9C111-3933-4439-A672-FC9AFC3C5CC7

Holotype: A preserved specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R170658 collected from 31 km west southwest of Mount Elvire, Pilbara District, Western Australia, Australia, Latitude -21.873611 S., Longitude 116.5025 E.

This government-owned facility allows access to its holdings.

Paratypes: Five preserved specimens at the Western Australian Museum (WAM), Perth, Western Australia, Australia, being specimen numbers R110841 and R110842 both from 36.8 km south southeast of Pannawonnica, Western Australia, Australia, Latitude -21.941389 S., Longitude 116.453889 E., specimen number R110856 from 37.9 km south southeast of Pannawonnica, Western Australia, Australia, Latitude -21.948333 S., Longitude 116.463611 E., and specimen numbers R110847 and R110865 both from the Pannawonnica area of Western Australia, Australia, Latitude -21.951111 S., Longitude 116.465278 E.

Diagnosis: Until now, the putative species *Typhlops*

ammodytes Montague, 1914, with a type locality of Hermite Island, Monte Bello Islands, Western Australia, Australia, Latitude -20.4610 S., Longitude 115.5252 E., has been treated as a taxon found throughout the Pilbara district of Western Australia, including outlier ranges, otherwise closely associated with the putative taxon *Typhlops diversus* Waite, 1914, with a type locality of “Morven, Qld”, but otherwise found from north western Queensland, across tropical Australia to the Kimberley district in Western Australia.

Cogger *et al.* (1983) synonymized the former with the latter, but most authors since have recognized both as separate taxa.

Hoser (2013a) recognized both and placed them in the genus *Sloppytyphlops* Hoser, 2013, being over 20 MYA divergent from all other Australian Blind Snakes based on the phylogeny of Marin *et al.* (2012).

Although Hoser (2013a) treated *Sloppytyphlops* as a subgenus of *Anilius* Gray, 1845, *Sloppytyphlops* is herein treated as a full genus.

Hoser (2013a) also split the putative species *Typhlops ammodytes* Montague, 1914 into two, recognizing the far east Pilbara populations as different from the type form to the west, naming the new taxon, *S. richardwellsi* (Hoser, 2013a) with a type locality of about 80 km south of Telfer, Little Sandy Desert, Western Australia, Latitude -22.33 S., Longitude 122.06 E.

It has since become apparent that there are no less than 10 species in the “*ammodytes* complex” each apparently confined to mountain blocks and environs. Each appear to be allopatric and are separated from one another by watercourse basins, or otherwise featureless plains.

Whether the separation of allopatric populations has been caused by habitat constraints, including microclimate requirements, food constraints (as in availability), or some kind of predator is not known, but this is certainly worthy of scientific investigation as this is not the only clade of Blind Snakes in the Pilbara or elsewhere that have speciated across a wider previous distribution.

Eight clades are identified by Marin *et al.* (2012), including it appears the two species already named.

Two geographically divergent populations, not sampled by Marin *et al.* (2012) being from the Cape Range and from the Barlee/Kenneth Ranges, both South of the main Pilbara area are also formally recognized herein as new species, as is the unsampled type form for “*Typhlops ammodytes*” giving a total of 11 species.

Marin *et al.* (2013) provided new evidence to show that the Barlee Ranges specimens were of a different species.

The eleven species recognized herein are as follows: The type form of *S. ammodytes*, is restricted to the type locality, being the Montebello Islands and

including Barrow Island.

S. richardwellsi Hoser, 2013 is the taxon found generally north and east of the Fortescue River. It is by far the most widespread species in the complex and the one encountered by most herpetologists who visit the Pilbara district. It is found in the region east of Newman and on the coast north of the Burrup Peninsula. There are two main lineages within this population, one from along the coast and the other from inland, but both are treated herein as a single species and no subspecies is named. It is believed the two clades diverged from one another between one and one and a half million years ago.

Exceptional to the north of the Fortescue River distribution of *S. richardwellsi* is the mainly allopatric species *S. timhudsoni* sp. nov. found south of the Burrup Peninsula along the Pilbara coast at least as far south as Cape Preston, and quite likely as far as the ocean outfall of the Fortescue River. *S. richardwellsi* and *S. timhudsoni* sp. nov. both occur around Karratha and are presumably sympatric in this immediate area.

S. flyingfoammasacre sp. nov. is an associated species, found south of the Fortescue River that occurs in the Pannawonnica area of the Pilbara extending at least as far east as Mount Elvira.

S. murderingpoliceorum sp. nov. is found south of the Cane River, generally around Mount Minnie and the nearby Parry Range, with a distribution bound by the Ashburton River to the south.

S. dhuae sp. nov. has a restricted range centered on Mount DeCoucey, which is in the region between the Red Hill Creek in the north and Cane River in the south, being at the far western edge of the Hamersley Ranges.

S. fildesi sp. nov. is found south of the Ashburton River in the Barlee Range and nearby hills, south of the Ashburton River and north of the flat lands further south.

S. exy sp. nov. is the taxon from the Cape Range district, being most similar to the two previously named species.

Within the main Hamersley Ranges and Chichester Range to the north-west are three other well-defined species.

S. johnpati sp. nov. is found in the Chichester Range district and immediately west only.

S. iancooki sp. nov. is found in the central Hamersley Ranges generally around Tom Price and Karijini National Park to the east.

S. cashcow sp. nov. is found from Weeli Wolli Creek east to the town of Newman and Fortescue River, in an area known as the Ophthalmia Range.

While all the preceding species are morphologically very similar, they can all be separated from one another by the following character traits.

S. richardwellsi sp. nov. is closely related to the type form of *S. ammodytes* (Montague, 1914) as well as

the other 10 species, with which it has been confused.

S. richardwellsi sp. nov. is most readily separated from some of the other species by tail length, being 2.5 to 4 percent of the total length with 13 to 18 subcaudals in *S. richardwellsi* sp. nov. and 1.4 to 2 percent of the total length with 8 to 12 subcaudals in nominate *S. ammodytes* (Montague, 1914) and all the other species except for *S. johnpati* sp. nov., *S. iancooki* sp. nov. and *S. cashcow* sp. nov. which is intermediate in this respect.

S. richardwellsi sp. nov. has a tail that is noticeably longer than broad, rather than the same length as broad in all the other species.

The upper nasal is as broad as the rostral in *S. richardwellsi* sp. nov.. This is not quite the case in nominate *S. ammodytes* (Montague, 1914).

S. flyingfoammasacre sp. nov. is similar in most respects to *S. richardwellsi* sp. nov., being the species it is most closely related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having semi-distinct brown etching, versus distinct as seen in *S. richardwellsi* sp. nov..

S. timhudsoni sp. nov. is similar in most respects to *S. richardwellsi* sp. nov., and *S. flyingfoammasacre* sp. nov. being the two species they are most closely related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having not having brown etching, versus distinct as seen in *S. richardwellsi* sp. nov. or semi distinct as seen in *S. flyingfoammasacre* sp. nov..

S. timhudsoni sp. nov. is further separated from *S. flyingfoammasacre* sp. nov. and *S. richardwellsi* sp. nov. by the fact that light whitish and brown marked scales of the snout are coloured this way back and beyond the line between the eyes, whereas this is not the case in *S. flyingfoammasacre* sp. nov. and *S. richardwellsi* sp. nov..

Both *S. dhuae* sp. nov. and *S. murderingpoliceorum* sp. nov. are separated from the other ten species by having (as adults) a well-defined brownish coloured rostral, with a thick creamish coloured outline created by the nasal on either side, also brown edged on the outer edge.

S. murderingpoliceorum sp. nov. is separated from *S. dhuae* sp. nov. by the fact that the rostral barely touches the prefrontal, versus well connected in *S. dhuae* sp. nov..

S. murderingpoliceorum sp. nov. is further separated from the other ten species by having a dorsum that is not obviously pinkish in colour, but rather is purplish-brown. The head and collar are whitish on top (especially anteriorly), becoming light orange at the back of the head. The mid dorsum and tail region are a dark blackish brown. The blackish region distally commences well on the body and anterior to the ventral area.

S. fildesi sp. nov. is separated from the other 10 species by having a slight light orange tinge to the dorsum, dark brown on the lower neck, mid body and tail region, no lighter scales on the dark tipped tail region dorsal surface and a frontal shield that has a strongly curved edge going up the snout.

S. exy sp. nov. is separated from the other ten species by having a slight beige to yellow brown tinge underlying the purplish-brown dorsum. The dorsum is light beige anterior to the eyes, light orange about two times this distance behind the eyes, including the anterior neck, dark brown beyond this, but fading on the lower neck and anterior body, before darkening along the mid part of the dorsum. Posteriorly the dorsum lightens again, before becoming blackish near the tail region and including some of the body anterior to the tail. There are some obvious lighter scales on the dark tipped tail region dorsal surface, near the tail point. The frontal shield is weakly curved edged going up the snout.

S. johnpati sp. nov., *S. iancooki* sp. nov. and *S. cashcow* sp. nov. as a trio are separated from the other eight species by their relatively larger eye spot. It also sits at the back of the ocular scale, versus centre or slightly anterior in the other species.

The three species are also characterized by being a dark purplish-pink colour overall on top. The tip of the snout is a whitish colour, becoming light brown over the main part of the head and extending well past the eyes.

S. iancooki sp. nov. is separated from *S. johnpati* sp. nov. and *S. cashcow* sp. nov. by the fact that adults retain tiny white or whitish spots in the centres of all or most dorsal scales, versus not so in the other two species. Both *S. johnpati* sp. nov. and *S. iancooki* sp. nov. have a rostral that is well joined to the prefrontal, versus only just touching at the centre in *S. cashcow* sp. nov..

S. johnpati sp. nov. is of similar colour intensity dorsally along its entire length. *S. iancooki* sp. nov. is a slightly darker purplish colour on the lower neck and tail regions above.

S. cashcow sp. nov. has an obvious dark purplish brown colour on the lower neck, mid-section and tail region, with scattered dull white spotting on the posterior flanks of the tail section, all being distinguishable from the dark purplish-pink colour overall on top.

The eleven preceding species are separated from all other Australian Blind Snakes by the following characteristics: a small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals. These 11 species are separated from the similar *S. diversus* (Waite, 1894) clade of

nine species as identified and named in this paper that as a group occurs in the Kimberley region, tropics of Australia and including nearby drier areas to far north-west Queensland by the shape of the rostral, being narrower and concave-sided versus straight-sided from above in the *S. diversus* (Waite, 1894) clade of species.

The eleven preceding species also have a more vertical orientation of the nasal cleft as opposed to extending forward to approximately the rostral in the *S. diversus* (Waite, 1894) clade of species.

The molecular phylogeny of Marin *et al.* (2012) showed 8 of 11 species being divergent from one another by more than 1.8 MYA as a minimum and most over 2.5 MYA divergent.

The phylogeny of Marin *et al.* (2012) found that the species *S. flyingfoam massacre* sp. nov. and *S. richardwellsi* Hoser, 2013 as nearest relatives diverged about 2 MYA.

The three unsampled taxa, included *S. fildesi* sp. nov. and *S. exy* sp. nov., both of which are found in areas known for endemism and separated by well-defined biogeographical barriers to the other taxa. They are also likely to have diverged from nearest relatives in excess of 2 MYA.

The third unsampled taxon, is the type form from Barrow Island and the Montebello Group, which while connected to the Pilbara mainland in the recent past (as in the last 15 K years), does not have any obvious pathway linking the population to any other, based on sea depth topography and geology and is therefore regarded as specifically distinct from geographically proximal mainland Pilbara species populations.

S. richardwellsi Hoser, 2013 of the east and north Pilbara is depicted in life in Cogger (2014) on page 795 at top and online at:

<https://arod.com.au/arod/reptilia/Squamata/Typhlopidae/Aniliios/ammodytes>

from Gorge Range, Western Australia, photographed by Ray Lloyd and

<https://pbase.com/austrelaps/image/155160982>

from Marble Bar, Western Australia, photographed by Ray Lloyd and

<https://www.flickr.com/photos/euprepiosaur/46257416015/>

from near Port Hedland, Western Australia, photographed by Stephen Zozaya, and

<https://www.flickr.com/photos/reptileshots/46214586145/>

from the north Pilbara, Western Australia, photographed by Brendan Schembri, and

<https://www.flickr.com/photos/127392361@N04/54009573192/>

from Sandfire Flat, Western Australia, photographed by Nick Gale and

<https://www.flickr.com/photos/114192916@N07/54042538129/>

from Sandfire Flat, Western Australia, photographed

by Justin Wright, and
https://www.flickr.com/photos/brian_busho/49353479918/
 from Shay Gap, Western Australia, photographed by Brian Bush and
https://www.flickr.com/photos/brian_busho/49353482343/
 from Shay Gap, Western Australia, photographed by Brian Bush, and
https://www.flickr.com/photos/brian_busho/49354080512/
 from Shay Gap, Western Australia, photographed by Brian Bush.

S. murderingpoliceorum sp. nov. as in the Cape Range species, is depicted in life in Wilson and Swan (2021) page 525 at middle from Bullara Station, Western Australia, photographed by Steve Wilson.

S. inacooki sp. nov. of the central Hamersley District is depicted in life online at:

<https://www.flickr.com/photos/171250498@N08/52511160144/>

from Karijini National Park, Western Australia, photographed by Wes Read, and

<https://www.flickr.com/photos/reptileshots/52841144784/>

from Karijini National Park, Western Australia, photographed by Brendan Schembri, and

<https://www.flickr.com/photos/58349528@N02/52906663519/>

from Karijini National Park, Western Australia, photographed by Jordan Mulder

Distribution: *S. flyingfoam massacre* sp. nov. is found south of the Fortescue River and occurs in the Pannawonnica area of the Pilbara extending at least as far east as Mount Elvira.

Etymology: *S. flyingfoam massacre* sp. nov. is named in memory of the Flying Foam Massacre.

The Flying Foam Massacre occurred in February of 1868, and was not a singular event, but a sequence of murders carried out by British invaders against the local Yaburara (Aboriginal) people. It occurred around King Bay and the Flying Foam Passage (Burrup Peninsula, Karratha region of the Pilbara, Western Australia) over the course of three or four days.

SLOPPTYPHLOPS TIMHUDSONI SP. NOV.

LSIDurn: [zoobank.org:act:CC29D430-4038-4577-864A-42ACD7B9475E](https://zoobank.org/act:CC29D430-4038-4577-864A-42ACD7B9475E)

Holotype: A preserved specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R141306 collected from the Cape Preston area, Pilbara District, Western Australia, Australia, Latitude -21.015278 S., Longitude 116.187222 E.

This government-owned facility allows access to its holdings.

Paratypes: A preserved specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R141313 collected from the Cape Preston area, Pilbara District, Western Australia, Australia, Latitude -20.911389 S., Longitude 116.192222 E.

Diagnosis: Until now, the putative species *Typhlops ammodytes* Montague, 1914, with a type locality of Hermite Island, Monte Bello Islands, Western Australia, Australia, Latitude -20.4610 S., Longitude 115.5252 E., has been treated as a taxon found throughout the Pilbara district of Western Australia, including outlier ranges, otherwise closely associated with the putative taxon *Typhlops diversus* Waite, 1914, with a type locality of "Morven, Qld", but otherwise found from north western Queensland, across tropical Australia to the Kimberley district in Western Australia.

Cogger *et al.* (1983) synonymized the former with the latter, but most authors since have recognized both as separate taxa.

All are herein placed in the genus *Sloppytyphlops* Hoser, 2013, being over 20 MYA divergent from all other Australian Blind Snakes based on the phylogeny of Marin *et al.* (2012 and 2013).

The putative species *Typhlops ammodytes* Montague, 1914 is herein treated as 11 separate species.

The eleven species recognized herein are as follows:

The type form of *S. ammodytes*, is restricted to the type locality, being the Montebello Islands and including Barrow Island.

S. richardwellsi Hoser, 2013 is the taxon found generally north and east of the Fortescue River. It is by far the most widespread species in the complex and the one encountered by most herpetologists who visit the Pilbara district. It is found in the region east of Newman and on the coast north of the Burrup Peninsula. There are two main lineages within this population, one from along the coast and the other from inland, but both are treated herein as a single species and no subspecies is named. It is believed the two clades diverged from one another between one and one and a half million years ago.

Exceptional to the north of the Fortescue River distribution of *S. richardwellsi* is the mainly allopatric species *S. timhudsoni* sp. nov. found south of the Burrup Peninsula along the Pilbara coast at least as far south as Cape Preston, and quite likely as far as the ocean outfall of the Fortescue River. *S. richardwellsi* and *S. timhudsoni* sp. nov. both occur around Karratha and are presumably sympatric in this immediate area.

S. flyingfoam massacre sp. nov. is an associated species, found south of the Fortescue River that occurs in the Pannawonnica area of the Pilbara extending at least as far east as Mount Elvira.

S. murderingpoliceorum sp. nov. is found south of the Cane River, generally around Mount Minnie and the

nearby Parry Range, with a distribution bound by the Ashburton River to the south.

S. dhuae sp. nov. has a restricted range centered on Mount DeCoucey, which is in the region between the Red Hill Creek in the north and Cane River in the south, being at the far western edge of the Hamersley Ranges.

S. fildesi sp. nov. is found south of the Ashburton River in the Barlee Range and nearby hills, south of the Ashburton River and north of the flat lands further south.

S. exy sp. nov. is the taxon from the Cape Range district, being most similar to the two previously named species.

Within the main Hamersley Ranges and Chichester Range to the north-west are three other well-defined species.

S. johnpati sp. nov. is found in the Chichester Range district and immediately west only.

S. iancooki sp. nov. is found in the central Hamersley Ranges generally around Tom Price and Karijini National Park to the east.

S. cashcow sp. nov. is found from Weeli Wolli Creek east to the town of Newman and Fortescue River, in an area known as the Ophthalmia Range.

While all the preceding species are morphologically very similar, they can all be separated from one another by the following character traits.

S. richardwellsi sp. nov. is closely related to the type form of *S. ammodytes* (Montague, 1914) as well as the other 10 species, with which it has been confused.

S. richardwellsi sp. nov. is most readily separated from some of the other species by tail length, being 2.5 to 4 percent of the total length with 13 to 18 subcaudals in *S. richardwellsi* sp. nov. and 1.4 to 2 percent of the total length with 8 to 12 subcaudals in nominate *S. ammodytes* (Montague, 1914) and all the other species except for *S. johnpati* sp. nov., *S. iancooki* sp. nov. and *S. cashcow* sp. nov. which is intermediate in this respect.

S. richardwellsi sp. nov. has a tail that is noticeably longer than broad, rather than the same length as broad in all the other species.

The upper nasal is as broad as the rostral in *S. richardwellsi* sp. nov.. This is not quite the case in nominate *S. ammodytes* (Montague, 1914).

S. flyingfoammassacre sp. nov. is similar in most respects to *S. richardwellsi* sp. nov., being the species it is most closely related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having semi-distinct brown etching, versus distinct as seen in *S. richardwellsi* sp. nov..

S. timhudsoni sp. nov. is similar in most respects to *S. richardwellsi* sp. nov., and *S. flyingfoammassacre* sp. nov. being the two species they are most closely related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout

between the eyes having not having brown etching, versus distinct as seen in *S. richardwellsi* sp. nov. or semi distinct as seen in *S. flyingfoammassacre* sp. nov..

S. timhudsoni sp. nov. is further separated from *S. flyingfoammassacre* sp. nov. and *S. richardwellsi* sp. nov. by the fact that light whitish and brown marked scales of the snout are coloured this way back and beyond the line between the eyes, whereas this is not the case in *S. flyingfoammassacre* sp. nov. and *S. richardwellsi* sp. nov..

Both *S. dhuae* sp. nov. and *S. murderingpoliceorum* sp. nov. are separated from the other ten species by having (as adults) a well-defined brownish coloured rostral, with a thick creamish coloured outline created by the nasal on either side, also brown edged on the outer edge.

S. murderingpoliceorum sp. nov. is separated from *S. dhuae* sp. nov. by the fact that the rostral barely touches the prefrontal, versus well connected in *S. dhuae* sp. nov..

S. murderingpoliceorum sp. nov. is further separated from the other ten species by having a dorsum that is not obviously pinkish in colour, but rather is purplish-brown. The head and collar are whitish on top (especially anteriorly), becoming light orange at the back of the head. The mid dorsum and tail region are a dark blackish brown. The blackish region distally commences well on the body and anterior to the ventral area.

S. fildesi sp. nov. is separated from the other 10 species by having a slight light orange tinge to the dorsum, dark brown on the lower neck, mid body and tail region, no lighter scales on the dark tipped tail region dorsal surface and a frontal shield that has a strongly curved edge going up the snout.

S. exy sp. nov. is separated from the other ten species by having a slight beige to yellow brown tinge underlying the purplish-brown dorsum. The dorsum is light beige anterior to the eyes, light orange about two times this distance behind the eyes, including the anterior neck, dark brown beyond this, but fading on the lower neck and anterior body, before darkening along the mid part of the dorsum. Posteriorly the dorsum lightens again, before becoming blackish near the tail region and including some of the body anterior to the tail. There are some obvious lighter scales on the dark tipped tail region dorsal surface, near the tail point. The frontal shield is weakly curved edged going up the snout.

S. johnpati sp. nov., *S. iancooki* sp. nov. and *S. cashcow* sp. nov. as a trio are separated from the other eight species by their relatively larger eye spot. It also sits at the back of the ocular scale, versus centre or slightly anterior in the other species.

The three species are also characterized by being a dark purplish-pink colour overall on top. The tip of the snout is a whitish colour, becoming light brown over

the main part of head and extending well past eyes. *S. iancooki sp. nov.* is separated from *S. johnpati sp. nov.*, and *S. cashcow sp. nov.* by the fact that adults retain tiny white or whitish spots in the centres of all or most dorsal scales, versus not so in the other two species. Both *S. johnpati sp. nov.* and *S. iancooki sp. nov.* have a rostral that is well joined to the prefrontal, versus only just touching at the centre in *S. cashcow sp. nov.*

S. johnpati sp. nov. is of similar colour intensity dorsally along its entire length. *S. iancooki sp. nov.* is a slightly darker purplish colour on the lower neck and tail regions above.

S. cashcow sp. nov. has an obvious dark purplish brown colour on the lower neck, mid-section and tail region, with scattered dull white spotting on the posterior flanks of the tail section, all being distinguishable from the dark purplish-pink colour overall on top.

The eleven preceding species are separated from all other Australian Blind Snakes by the following characteristics: a small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals. These 11 species are separated from the similar *S. diversus* (Waite, 1894) clade of nine species as identified and named in this paper that as a group occurs in the Kimberley region, tropics of Australia and including nearby drier areas to far north-west Queensland by the shape of the rostral, being narrower and concave-sided versus straight-sided from above in the *S. diversus* (Waite, 1894) clade of species.

The eleven preceding species also have a more vertical orientation of the nasal cleft as opposed to extending forward to approximately the rostral in the *S. diversus* (Waite, 1894) clade of species.

The phylogeny of Marin *et al.* (2012) found that the species *S. timhudsoni sp. nov.* diverged from its nearest relatives, being *S. flyingfoam massacre sp. nov.* and *S. richardwellsi* Hoser, 2013 about 2.5 MYA. Further relevant information and detail in terms of this description is provided within the formal description of *S. flyingfoam massacre sp. nov.* preceding this description and relied on as part of this description.

Distribution: *S. timhudsoni sp. nov.* is found south of the Burruup Peninsula along the Pilbara coast at least as far south as Cape Preston, and quite likely as far south near the coast as far as the ocean outfall of the Fortescue River.

Etymology: *S. timhudsoni sp. nov.* is named in honor of Timothy Hudson of Hudson's Snake Catching, at Gilston, Gold Coast, Queensland, Australia in recognition of his services to wildlife conservation in Australia.

SLOPPYTYPHLOPS MURDERINGPOLICEORUM SP. NOV.

LSIDurn:lsid:zoobank.org:act:EA6DB739-C71A-44DF-A1E1-FD1B4FC78B6A

Holotype: A preserved specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R139430 collected from the Mount Minnie homestead, Western Australia, Australia, Latitude -22.033333 S., Longitude 115.466667 E.

This government-owned facility allows access to its holdings.

Paratypes: Three preserved specimens at the Western Australian Museum (WAM), Perth, Western Australia, Australia, being specimen number R170620 collected from 17 km northwest of Peedamulla Homestead, Western Australia, Australia, Latitude -21.791389 S., Longitude 115.464167 E., specimen number R161994 collected from 1 km southeast of Mount Murray, Western Australia, Australia, Latitude -22.498333 S., Longitude 115.558056 E., and specimen number R162018 collected from 21.5 km northeast of Mount Mary, Western Australia, Australia, Latitude -22.255278 S., Longitude 115.436389 E.

Diagnosis: Until now, the putative species *Typhlops ammodytes* Montague, 1914, with a type locality of Hermite Island, Monte Bello Islands, Western Australia, Australia, Latitude -20.4610 S., Longitude 115.5252 E., has been treated as a taxon found throughout the Pilbara district of Western Australia, including outlier ranges, otherwise closely associated with the putative taxon *Typhlops diversus* Waite, 1914, with a type locality of "Morven, Qld", but otherwise found from north western Queensland, across tropical Australia to the Kimberley district in Western Australia.

Cogger *et al.* (1983) synonymized the former with the latter, but most authors since have recognized both as separate taxa.

All are herein placed in the genus *Sloppytyphlops* Hoser, 2013, being over 20 MYA divergent from all other Australian Blind Snakes based on the phylogeny of Marin *et al.* (2012 and 2013).

The putative species *Typhlops ammodytes* Montague, 1914 is herein treated as 11 separate species.

The eleven species recognized herein are as follows:

The type form of *S. ammodytes*, is restricted to the type locality, being the Montebello Islands and including Barrow Island.

S. richardwellsi Hoser, 2013 is the taxon found generally north and east of the Fortescue River. It is by far the most widespread species in the complex and the one encountered by most herpetologists who visit the Pilbara district. It is found in the region east of Newman and on the coast north of the Burrup Peninsula. There are two main lineages within this population, one from along the coast and the other from inland, but both are treated herein as a single

species and no subspecies is named. It is believed the two clades diverged from one another between one and one and a half million years ago.

Exceptional to the north of the Fortescue River distribution of *S. richardwellsi* is the mainly allopatric species *S. timhudsoni* sp. nov. found south of the Burrup Peninsula along the Pilbara coast at least as far south as Cape Preston, and quite likely as far as the ocean outfall of the Fortescue River. *S. richardwellsi* and *S. timhudsoni* sp. nov. both occur around Karratha and are presumably sympatric in this immediate area.

S. flyingfoammassacre sp. nov. is an associated species, found south of the Fortescue River that occurs in the Pannawonnica area of the Pilbara extending at least as far east as Mount Elvira.

S. murderingpoliceorum sp. nov. is found south of the Cane River, generally around Mount Minnie and the nearby Parry Range, with a distribution bound by the Ashburton River to the south.

S. dhuae sp. nov. has a restricted range centered on Mount DeCousey, which is in the region between the Red Hill Creek in the north and Cane River in the south, being at the far western edge of the Hamersley Ranges.

S. fildesi sp. nov. is found south of the Ashburton River in the Barlee Range and nearby hills, south of the Ashburton River and north of the flat lands further south.

S. exy sp. nov. is the taxon from the Cape Range district, being most similar to the two previously named species.

Within the main Hamersley Ranges and Chichester Range to the north-west are three other well-defined species.

S. johnpati sp. nov. is found in the Chichester Range district and immediately west only.

S. iancooki sp. nov. is found in the central Hamersley Ranges generally around Tom Price and Karijini National Park to the east.

S. cashcow sp. nov. is found from Weeli Wolli Creek east to the town of Newman and Fortescue River, in an area known as the Opthalmia Range.

While all the preceding species are morphologically very similar, they can all be separated from one another by the following character traits.

S. richardwellsi sp. nov. is closely related to the type form of *S. ammodytes* (Montague, 1914) as well as the other 10 species, with which it has been confused.

S. richardwellsi sp. nov. is most readily separated from some of the other species by tail length, being 2.5 to 4 percent of the total length with 13 to 18 subcaudals in *S. richardwellsi* sp. nov. and 1.4 to 2 percent of the total length with 8 to 12 subcaudals in nominate *S. ammodytes* (Montague, 1914) and all the other species except for *S. johnpati* sp. nov., *S. iancooki* sp. nov. and *S. cashcow* sp. nov. which is intermediate in this respect.

S. richardwellsi sp. nov. has a tail that is noticeably longer than broad, rather than the same length as broad in all the other species.

The upper nasal is as broad as the rostral in *S. richardwellsi* sp. nov.. This is not quite the case in nominate *S. ammodytes* (Montague, 1914).

S. flyingfoammassacre sp. nov. is similar in most respects to *S. richardwellsi* sp. nov., being the species it is most closely related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having semi-distinct brown etching, versus distinct as seen in *S. richardwellsi* sp. nov..

S. timhudsoni sp. nov. is similar in most respects to *S. richardwellsi* sp. nov., and *S. flyingfoammassacre* sp. nov. being the two species they are most closely related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having not having brown etching, versus distinct as seen in *S. richardwellsi* sp. nov. or semi distinct as seen in *S. flyingfoammassacre* sp. nov..

S. timhudsoni sp. nov. is further separated from *S. flyingfoammassacre* sp. nov. and *S. richardwellsi* sp. nov. by the fact that light whitish and brown marked scales of the snout are coloured this way back and beyond the line between the eyes, whereas this is not the case in *S. flyingfoammassacre* sp. nov. and *S. richardwellsi* sp. nov..

Both *S. dhuae* sp. nov. and *S. murderingpoliceorum* sp. nov. are separated from the other ten species by having (as adults) a well-defined brownish coloured rostral, with a thick creamish coloured outline created by the nasal on either side, also brown edged on the outer edge.

S. murderingpoliceorum sp. nov. is separated from *S. dhuae* sp. nov. by the fact that the rostral barely touches the prefrontal, versus well connected in *S. dhuae* sp. nov..

S. murderingpoliceorum sp. nov. is further separated from the other ten species by having a dorsum that is not obviously pinkish in colour, but rather is purplish-brown. The head and collar are whitish on top (especially anteriorly), becoming light orange at the back of the head. The mid dorsum and tail region are a dark blackish brown. The blackish region distally commences well on the body and anterior to the ventral area.

S. fildesi sp. nov. is separated from the other 10 species by having a slight light orange tinge to the dorsum, dark brown on the lower neck, mid body and tail region, no lighter scales on the dark tipped tail region dorsal surface and a frontal shield that has a strongly curved edge going up the snout.

S. exy sp. nov. is separated from the other ten species by having a slight beige to yellow brown tinge underlying the purplish-brown dorsum. The dorsum is light beige anterior to the eyes, light orange about

two times this distance behind the eyes, including the anterior neck, dark brown beyond this, but fading on the lower neck and anterior body, before darkening along the mid part of the dorsum. Posteriorly the dorsum lightens again, before becoming blackish near the tail region and including some of the body anterior to the tail. There are some obvious lighter scales on the dark tipped tail region dorsal surface, near the tail point. The frontal shield is weakly curved edged going up the snout.

S. johnpati sp. nov., *S. iancooki* sp. nov. and *S. cashcow* sp. nov. as a trio are separated from the other eight species by their relatively larger eye spot. It also sits at the back of the ocular scale, versus centre or slightly anterior in the other species.

The three species are also characterized by being a dark purplish-pink colour overall on top. The tip of the snout is a whitish colour, becoming light brown over the main part of the head and extending well past the eyes.

S. iancooki sp. nov. is separated from *S. johnpati* sp. nov., and *S. cashcow* sp. nov. by the fact that adults retain tiny white or whitish spots in the centres of all or most dorsal scales, versus not so in the other two species. Both *S. johnpati* sp. nov. and *S. iancooki* sp. nov. have a rostral that is well joined to the prefrontal, versus only just touching at the centre in *S. cashcow* sp. nov..

S. johnpati sp. nov. is of similar colour intensity dorsally along its entire length. *S. iancooki* sp. nov. is a slightly darker purplish colour on the lower neck and tail regions above.

S. cashcow sp. nov. has an obvious dark purplish brown colour on the lower neck, mid-section and tail region, with scattered dull white spotting on the posterior flanks of the tail section, all being distinguishable from the dark purplish-pink colour overall on top.

The eleven preceding species are separated from all other Australian Blind Snakes by the following characteristics: a small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals. These 11 species are separated from the similar *S. diversus* (Waite, 1894) clade of nine species as identified and named in this paper that as a group occurs in the Kimberley region, tropics of Australia and including nearby drier areas to far north-west Queensland by the shape of the rostral, being narrower and concave-sided versus straight-sided from above in the *S. diversus* (Waite, 1894) clade of species.

The eleven preceding species also have a more vertical orientation of the nasal cleft as opposed to extending forward to approximately the rostral in the

S. diversus (Waite, 1894) clade of species.

The phylogeny of Marin *et al.* (2012) found that the species *S. murderingpoliceorum* sp. nov. and *S. dhuae* sp. nov. as closest relatives, diverged from one another about 2 MYA.

In turn this species pair diverged other nearest nearest relatives, being *S. timhudsoni* sp. nov., *S. flyingfoammasacre* sp. nov. and *S. richardwellsi* Hoser, 2013 about 3 MYA.

Further relevant information and detail in terms of this description is provided within the formal description of *S. flyingfoammasacre* sp. nov. preceding this description and relied explicitly as part of this formal description.

Distribution: *S. murderingpoliceorum* sp. nov. is found south of the Cane River, generally around Mount Minnie and the nearby Parry Range, with a distribution bound by the Ashburton River to the south.

Etymology: *S. murderingpoliceorum* sp. nov. is named in recognition of the many racist and corrupt police officers in the fascist state of Australia, including in Western Australia, best known for unlawfully murdering native Aboriginal Australians. However, police officers in Australia, better described as paid government thugs rather than law enforcement officers as they like to characterize themselves are also not averse to murdering "white" Australians they see as in their way or otherwise putting their various criminal enterprises at risk. For further details see Hoser (1991, 1993, 1999a-b, 2000a-b).

SLOPTYPHLOPS DHUAE SP. NOV.

LSIDurn:lsid:zoobank.org:act:C952B156-F447-4741-B630-6F02980F8C9F

Holotype: A preserved specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R162120 collected from 16 km west of Mount De Courcey, Western Australia, Australia, Latitude -22.74 S., Longitude 116.461111 E. This government-owned facility allows access to its holdings.

Paratype: A preserved specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R162149 collected from 16 km west of Mount De Courcey, Western Australia, Australia, Latitude -22.74 S., Longitude 116.461111 E.

Diagnosis: Until now, the putative species *Typhlops ammodytes* Montague, 1914, with a type locality of Hermite Island, Monte Bello Islands, Western Australia, Australia, Latitude -20.4610 S., Longitude 115.5252 E., has been treated as a taxon found throughout the Pilbara district of Western Australia, including outlier ranges, otherwise closely associated with the putative taxon *Typhlops diversus* Waite, 1914, with a type locality of "Morven, Qld", but otherwise found from north western Queensland, across tropical Australia to the Kimberley district in

Western Australia.

Cogger *et al.* (1983) synonymized the former with the latter, but most authors since have recognized both as separate taxa.

All are herein placed in the genus *Sloppytyphlops* Hoser, 2013, being over 20 MYA divergent from all other Australian Blind Snakes based on the phylogeny of Marin *et al.* (2012).

The putative species *Typhlops ammodytes* Montague, 1914 is herein treated as 11 separate species.

The eleven species recognized herein are as follows:

The type form of *S. ammodytes*, is restricted to the type locality, being the Montebello Islands and including Barrow Island.

S. richardwellsi Hoser, 2013 is the taxon found generally north and east of the Fortescue River. It is by far the most widespread species in the complex and the one encountered by most herpetologists who visit the Pilbara district. It is found in the region east of Newman and on the coast north of the Burrup Peninsula. There are two main lineages within this population, one from along the coast and the other from inland, but both are treated herein as a single species and no subspecies is named. It is believed the two clades diverged from one another between one and one and a half million years ago.

Exceptional to the north of the Fortescue River distribution of *S. richardwellsi* is the mainly allopatric species *S. timhudsoni* sp. nov. found south of the Burrup Peninsula along the Pilbara coast at least as far south as Cape Preston, and quite likely as far as the ocean outfall of the Fortescue River. *S. richardwellsi* and *S. timhudsoni* sp. nov. both occur around Karratha and are presumably sympatric in this immediate area.

S. flyingfoammasacre sp. nov. is an associated species, found south of the Fortescue River that occurs in the Pannawonnic area of the Pilbara extending at least as far east as Mount Elvira.

S. murderingpoliceorum sp. nov. is found south of the Cane River, generally around Mount Minnie and the nearby Parry Range, with a distribution bound by the Ashburton River to the south.

S. dhuae sp. nov. has a restricted range centered on Mount DeCoucey, which is in the region between the Red Hill Creek in the north and Cane River in the south, being at the far western edge of the Hamersley Ranges.

S. fildesi sp. nov. is found south of the Ashburton River in the Barlee Range and nearby hills, south of the Ashburton River and north of the flat lands further south.

S. exy sp. nov. is the taxon from the Cape Range district, being most similar to the two previously named species.

Within the main Hamersley Ranges and Chichester Range to the north-west are three other well-defined species.

S. johnpati sp. nov. is found in the Chichester Range district and immediately west only.

S. iancooki sp. nov. is found in the central Hamersley Ranges generally around Tom Price and Karijini National Park to the east.

S. cashcow sp. nov. is found from Weeli Wolli Creek east to the town of Newman and Fortescue River, in an area known as the Ophthalmia Range.

While all the preceding species are morphologically very similar, they can all be separated from one another by the following character traits.

S. richardwellsi sp. nov. is closely related to the type form of *S. ammodytes* (Montague, 1914) as well as the other 10 species, with which it has been confused.

S. richardwellsi sp. nov. is most readily separated from some of the other species by tail length, being 2.5 to 4 percent of the total length with 13 to 18 subcaudals in *S. richardwellsi* sp. nov. and 1.4 to 2 percent of the total length with 8 to 12 subcaudals in nominate *S. ammodytes* (Montague, 1914) and all the other species except for *S. johnpati* sp. nov., *S. iancooki* sp. nov. and *S. cashcow* sp. nov. which is intermediate in this respect.

S. richardwellsi sp. nov. has a tail that is noticeably longer than broad, rather than the same length as broad in all the other species.

The upper nasal is as broad as the rostral in *S. richardwellsi* sp. nov.. This is not quite the case in nominate *S. ammodytes* (Montague, 1914).

S. flyingfoammasacre sp. nov. is similar in most respects to *S. richardwellsi* sp. nov., being the species it is most closely related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having semi-distinct brown etching, versus distinct as seen in *S. richardwellsi* sp. nov..

S. timhudsoni sp. nov. is similar in most respects to *S. richardwellsi* sp. nov., and *S. flyingfoammasacre* sp. nov. being the two species they are most closely related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having not having brown etching, versus distinct as seen in *S. richardwellsi* sp. nov. or semi distinct as seen in *S. flyingfoammasacre* sp. nov..

S. timhudsoni sp. nov. is further separated from *S. flyingfoammasacre* sp. nov. and *S. richardwellsi* sp. nov. by the fact that light whitish and brown marked scales of the snout are coloured this way back and beyond the line between the eyes, whereas this is not the case in *S. flyingfoammasacre* sp. nov. and *S. richardwellsi* sp. nov..

Both *S. dhuae* sp. nov. and *S. murderingpoliceorum* sp. nov. are separated from the other ten species by having (as adults) a well-defined brownish coloured rostral, with a thick creamish coloured outline created by the nasal on either side, also brown edged on the outer edge.

S. murderingpoliceorum sp. nov. is separated from *S. dhuae sp. nov.* by the fact that the rostral barely touches the prefrontal, versus well connected in *S. dhuae sp. nov.*

S. murderingpoliceorum sp. nov. is further separated from the other ten species by having a dorsum that is not obviously pinkish in colour, but rather is purplish-brown. The head and collar are whitish on top (especially anteriorly), becoming light orange at the back of the head. The mid dorsum and tail region are a dark blackish brown. The blackish region distally commences well on the body and anterior to the ventral area.

S. fildesi sp. nov. is separated from the other 10 species by having a slight light orange tinge to the dorsum, dark brown on the lower neck, mid body and tail region, no lighter scales on the dark tipped tail region dorsal surface and a frontal shield that has a strongly curved edge going up the snout.

S. exy sp. nov. is separated from the other ten species by having a slight beige to yellow brown tinge underlying the purplish-brown dorsum. The dorsum is light beige anterior to the eyes, light orange about two times this distance behind the eyes, including the anterior neck, dark brown beyond this, but fading on the lower neck and anterior body, before darkening along the mid part of the dorsum. Posteriorly the dorsum lightens again, before becoming blackish near the tail region and including some of the body anterior to the tail. There are some obvious lighter scales on the dark tipped tail region dorsal surface, near the tail point. The frontal shield is weakly curved edged going up the snout.

S. johnpati sp. nov., *S. iancooki sp. nov.* and *S. cashcow sp. nov.* as a trio are separated from the other eight species by their relatively larger eye spot. It also sits at the back of the ocular scale, versus centre or slightly anterior in the other species.

The three species are also characterized by being a dark purplish-pink colour overall on top. The tip of the snout is a whitish colour, becoming light brown over the main part of the head and extending well past the eyes.

S. iancooki sp. nov. is separated from *S. johnpati sp. nov.*, and *S. cashcow sp. nov.* by the fact that adults retain tiny white or whitish spots in the centres of all or most dorsal scales, versus not so in the other two species. Both *S. johnpati sp. nov.* and *S. iancooki sp. nov.* have a rostral that is well joined to the prefrontal, versus only just touching at the centre in *S. cashcow sp. nov.*

S. johnpati sp. nov. is of similar colour intensity dorsally along its entire length. *S. iancooki sp. nov.* is a slightly darker purplish colour on the lower neck and tail regions above.

S. cashcow sp. nov. has an obvious dark purplish brown colour on the lower neck, mid-section and tail region, with scattered dull white spotting on

the posterior flanks of the tail section, all being distinguishable from the dark purplish-pink colour overall on top.

The eleven preceding species are separated from all other Australian Blind Snakes by the following characteristics: a small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals. These 11 species are separated from the similar *S. diversus* (Waite, 1894) clade of nine species as identified and named in this paper that as a group occurs in the Kimberley region, tropics of Australia and including nearby drier areas to far north-west Queensland by the shape of the rostral, being narrower and concave-sided versus straight-sided from above in the *S. diversus* (Waite, 1894) clade of species.

The eleven preceding species also have a more vertical orientation of the nasal cleft as opposed to extending forward to approximately the rostral in the *S. diversus* (Waite, 1894) clade of species.

The phylogeny of Marin *et al.* (2012) found that the species *S. murderingpoliceorum sp. nov.* and *S. dhuae sp. nov.* as closest relatives, diverged from one another about 2 MYA.

In turn this species pair diverged other nearest nearest relatives, being *S. timhudsoni sp. nov.*, *S. flyingfoammassacre sp. nov.* and *S. richardwellsi* Hoser, 2013 about 3 MYA.

Further relevant information and detail in terms of this description is provided within the formal description of *S. flyingfoammassacre sp. nov.* preceding this description and relied explicitly as part of this formal description.

Distribution: *S. dhuae sp. nov.* has a restricted range centered on Mount DeCoucey, which is in the region between the Red Hill Creek in the north and Cane River in the south, being at the far western edge of the Hamersley Ranges.

Etymology: *S. dhuae sp. nov.* is named in recognition of Julieka Ivanna Dhu (commonly referred to as Ms. Dhu). She was a 22-year-old Aboriginal Australian woman killed by violent police at South Hedland, Western Australia, in 2014. Refer also to the etymology of *S. murderingpoliceorum sp. nov.* in this paper.

SLOPPTYPHLOPS FILDESI SP. NOV.

LSIDurn:lsid:zoobank.org:act:C31379E7-E1F1-4677-B993-74343B56CAB5

Holotype: A preserved specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R102560 collected from the Barlee Range Nature Reserve, Western Australia, Australia, Latitude -23.095833 S., Longitude 116.009722 E.

This government-owned facility allows access to its holdings.

Paratype: Four preserved specimens at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen numbers R102482, R102490, R102550 and R102551 all collected from the Barlee Range Nature Reserve, Western Australia, Australia.

Diagnosis: Until now, the putative species *Typhlops ammodytes* Montague, 1914, with a type locality of Hermite Island, Monte Bello Islands, Western Australia, Australia, Latitude -20.4610 S., Longitude 115.5252 E., has been treated as a taxon found throughout the Pilbara district of Western Australia, including outlier ranges, otherwise closely associated with the putative taxon *Typhlops diversus* Waite, 1914, with a type locality of "Morven, Qld", but otherwise found from north western Queensland, across tropical Australia to the Kimberley district in Western Australia.

Cogger *et al.* (1983) synonymized the former with the latter, but most authors since have recognized both as separate taxa.

All are herein placed in the genus *Sloppytyphlops* Hoser, 2013, being over 20 MYA divergent from all other Australian Blind Snakes based on the phylogeny of Marin *et al.* (2012 and 2013).

The putative species *Typhlops ammodytes* Montague, 1914 is herein treated as 11 separate species.

The eleven species recognized herein are as follows:

The type form of *S. ammodytes*, is restricted to the type locality, being the Montebello Islands and including Barrow Island.

S. richardwellsi Hoser, 2013 is the taxon found generally north and east of the Fortescue River. It is by far the most widespread species in the complex and the one encountered by most herpetologists who visit the Pilbara district. It is found in the region east of Newman and on the coast north of the Burrup Peninsula. There are two main lineages within this population, one from along the coast and the other from inland, but both are treated herein as a single species and no subspecies is named. It is believed the two clades diverged from one another between one and one and a half million years ago.

Exceptional to the north of the Fortescue River distribution of *S. richardwellsi* is the mainly allopatric species *S. timhudsoni* sp. nov. found south of the Burrup Peninsula along the Pilbara coast at least as far south as Cape Preston, and quite likely as far as the ocean outfall of the Fortescue River. *S. richardwellsi* and *S. timhudsoni* sp. nov. both occur around Karratha and are presumably sympatric in this immediate area.

S. flyingfoamassacre sp. nov. is an associated species, found south of the Fortescue River that occurs in the Pannawonnica area of the Pilbara extending at least as far east as Mount Elvira.

S. murderingpoliceorum sp. nov. is found south of the

Cane River, generally around Mount Minnie and the nearby Parry Range, with a distribution bound by the Ashburton River to the south.

S. dhuae sp. nov. has a restricted range centered on Mount DeCoucey, which is in the region between the Red Hill Creek in the north and Cane River in the south, being at the far western edge of the Hamersley Ranges.

S. fildesi sp. nov. is found south of the Ashburton River in the Barlee Range and nearby hills, south of the Ashburton River and north of the flat lands further south.

S. exy sp. nov. is the taxon from the Cape Range district, being most similar to the two previously named species.

Within the main Hamersley Ranges and Chichester Range to the north-west are three other well-defined species.

S. johnpati sp. nov. is found in the Chichester Range district and immediately west only.

S. iancooki sp. nov. is found in the central Hamersley Ranges generally around Tom Price and Karijini National Park to the east.

S. cashcow sp. nov. is found from Weeli Wolli Creek east to the town of Newman and Fortescue River, in an area known as the Ophthalmia Range.

While all the preceding species are morphologically very similar, they can all be separated from one another by the following character traits.

S. richardwellsi sp. nov. is closely related to the type form of *S. ammodytes* (Montague, 1914) as well as the other 10 species, with which it has been confused.

S. richardwellsi sp. nov. is most readily separated from some of the other species by tail length, being 2.5 to 4 percent of the total length with 13 to 18 subcaudals in *S. richardwellsi* sp. nov. and 1.4 to 2 percent of the total length with 8 to 12 subcaudals in nominate *S. ammodytes* (Montague, 1914) and all the other species except for *S. johnpati* sp. nov., *S. iancooki* sp. nov. and *S. cashcow* sp. nov. which is intermediate in this respect.

S. richardwellsi sp. nov. has a tail that is noticeably longer than broad, rather than the same length as broad in all the other species.

The upper nasal is as broad as the rostral in *S. richardwellsi* sp. nov.. This is not quite the case in nominate *S. ammodytes* (Montague, 1914).

S. flyingfoamassacre sp. nov. is similar in most respects to *S. richardwellsi* sp. nov., being the species it is most closely related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having semi-distinct brown etching, versus distinct as seen in *S. richardwellsi* sp. nov..

S. timhudsoni sp. nov. is similar in most respects to *S. richardwellsi* sp. nov., and *S. flyingfoamassacre* sp. nov. being the two species they are most closely related to. It differs in the upper nasal not being as

broad as the rostral and the scales around the snout between the eyes having not having brown etching, versus distinct as seen in *S. richardwellsi* sp. nov. or semi distinct as seen in *S. flyingfoammassacre* sp. nov..

S. timhudsoni sp. nov. is further separated from *S. flyingfoammassacre* sp. nov. and *S. richardwellsi* sp. nov. by the fact that light whitish and brown marked scales of the snout are coloured this way back and beyond the line between the eyes, whereas this is not the case in *S. flyingfoammassacre* sp. nov. and *S. richardwellsi* sp. nov..

Both *S. dhuae* sp. nov. and *S. murderingpoliceorum* sp. nov. are separated from the other ten species by having (as adults) a well-defined brownish coloured rostral, with a thick creamish coloured outline created by the nasal on either side, also brown edged on the outer edge.

S. murderingpoliceorum sp. nov. is separated from *S. dhuae* sp. nov. by the fact that the rostral barely touches the prefrontal, versus well connected in *S. dhuae* sp. nov..

S. murderingpoliceorum sp. nov. is further separated from the other ten species by having a dorsum that is not obviously pinkish in colour, but rather is purplish-brown. The head and collar are whitish on top (especially anteriorly), becoming light orange at the back of the head. The mid dorsum and tail region are a dark blackish brown. The blackish region distally commences well on the body and anterior to the ventral area.

S. fildesi sp. nov. is separated from the other 10 species by having a slight light orange tinge to the dorsum, dark brown on the lower neck, mid body and tail region, no lighter scales on the dark tipped tail region dorsal surface and a frontal shield that has a strongly curved edge going up the snout.

S. exy sp. nov. is separated from the other ten species by having a slight beige to yellow brown tinge underlying the purplish-brown dorsum. The dorsum is light beige anterior to the eyes, light orange about two times this distance behind the eyes, including the anterior neck, dark brown beyond this, but fading on the lower neck and anterior body, before darkening along the mid part of the dorsum. Posteriorly the dorsum lightens again, before becoming blackish near the tail region and including some of the body anterior to the tail. There are some obvious lighter scales on the dark tipped tail region dorsal surface, near the tail point. The frontal shield is weakly curved edged going up the snout.

S. johnpati sp. nov., *S. iancooki* sp. nov. and *S. cashcow* sp. nov. as a trio are separated from the other eight species by their relatively larger eye spot. It also sits at the back of the ocular scale, versus centre or slightly anterior in the other species.

The three species are also characterized by being a dark purplish-pink colour overall on top. The tip of the

snout is a whitish colour, becoming light brown over the main part of the head and extending well past the eyes.

S. iancooki sp. nov. is separated from *S. johnpati* sp. nov., and *S. cashcow* sp. nov. by the fact that adults retain tiny white or whitish spots in the centres of all or most dorsal scales, versus not so in the other two species. Both *S. johnpati* sp. nov. and *S. iancooki* sp. nov. have a rostral that is well joined to the prefrontal, versus only just touching at the centre in *S. cashcow* sp. nov..

S. johnpati sp. nov. is of similar colour intensity dorsally along its entire length. *S. iancooki* sp. nov. is a slightly darker purplish colour on the lower neck and tail regions above.

S. cashcow sp. nov. has an obvious dark purplish brown colour on the lower neck, mid-section and tail region, with scattered dull white spotting on the posterior flanks of the tail section, all being distinguishable from the dark purplish-pink colour overall on top.

The eleven preceding species are separated from all other Australian Blind Snakes by the following characteristics: a small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows.

The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals. These 11 species are separated from the similar *S. diversus* (Waite, 1894) clade of nine species as identified and named in this paper that as a group occurs in the Kimberley region, tropics of Australia and including nearby drier areas to far north-west Queensland by the shape of the rostral, being narrower and concave-sided versus straight-sided from above in the *S. diversus* (Waite, 1894) clade of species.

The eleven preceding species also have a more vertical orientation of the nasal cleft as opposed to extending forward to approximately the rostral in the *S. diversus* (Waite, 1894) clade of species.

The species *S. fildesi* sp. nov. is found south of the Ashburton River basin in the Barlee Range and therefore is biogeographically isolated from related species further north and in the Cape Range to the west, that is separated by an area of flat saltbush plains and dunes.

Further relevant information and detail in terms of this description is provided within the formal description of *S. flyingfoammassacre* sp. nov. preceding this description and relied explicitly as part of this formal description.

Distribution: *S. fildesi* sp. nov. is found south of the Ashburton River in the Barlee Range and nearby hills, being south of the Ashburton River and north of the flat lands further south.

Etymology: *S. fildesi* sp. nov. is named in recognition of Ashley Fildes who was fatally shot dead, execution style with three shots, by rogue West Australian Police officer Sergeant Michael Little in company with four other police.

The killing happened on 1 May 2020 at the South Hedland Shopping Centre in front of stunned members of the public.

Ashley Fildes was a white man and merely visiting the area for work as a FIFO (fly in, fly out) worker.

The West Australian Police Commissioner at the time, Christopher Dawson, a recipient of numerous nepotistic government awards, lied when he praised Sergeant Michael Little for his "bravery"!

Police Union President Harry Arnott dishonestly praised Sergeant Michael Little as "a hero."

Sergeant Michael Little received a West Australian government sponsored "bravery" award for the murder in November 2020.

Refer also to the etymology of *S.*

murderingpoliceorum sp. nov. in this paper.

SLOPPYTYPHLOPS EXY SP. NOV.

LSIDurn:lsid:zoobank.org:act:FA63F347-53A8-4368-B6E2-A4DE492A9523

Holotype: A preserved adult specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R151302 collected in a rotten stump from near Learmonth, Western Australia, Australia, Latitude -22.178333 S., Longitude 114.081667 E.

This government-owned facility allows access to its holdings.

Paratypes: Four preserved specimens at the Western Australian Museum (WAM), Perth, Western Australia, Australia, being specimen number R61472 collected from a salt plain 27 km south of Exmouth, Western Australia, Australia, Latitude -22.166667 S., Longitude 113.816667 E., specimen numbers R61120 and R61493 both collected from 2-4 km south of Yardie Creek (the watercourse), Cape Range area, Western Australia, Australia, Latitude -22.3 S., Longitude 113.816667 E., and specimen number R142358 (male) collected from the Vlaming Head Lighthouse, Western Australia, Australia, Latitude -21.807778 S., Longitude 113.816667 E..

Diagnosis: Until now, the putative species *Typhlops ammodytes* Montague, 1914, with a type locality of Hermite Island, Monte Bello Islands, Western Australia, Australia, Latitude -20.4610 S., Longitude 115.5252 E., has been treated as a taxon found throughout the Pilbara district of Western Australia, including outlier ranges, otherwise closely associated with the putative taxon *Typhlops diversus* Waite, 1914, with a type locality of "Morven, Qld", but otherwise found from north western Queensland, across tropical Australia to the Kimberley district in Western Australia.

Cogger *et al.* (1983) synonymized the former with the

latter, but most authors since have recognized both as separate taxa.

All are herein placed in the genus *Sloppytyphlops* Hoser, 2013, being over 20 MYA divergent from all other Australian Blind Snakes based on the phylogeny of Marin *et al.* (2012 and 2013).

The putative species *Typhlops ammodytes* Montague, 1914 is herein treated as 11 separate species.

The eleven species recognized herein are as follows:

The type form of *S. ammodytes*, is restricted to the type locality, being the Montebello Islands and including Barrow Island.

S. richardwellsi Hoser, 2013 is the taxon found generally north and east of the Fortescue River. It is by far the most widespread species in the complex and the one encountered by most herpetologists who visit the Pilbara district. It is found in the region east of Newman and on the coast north of the Burrup Peninsula. There are two main lineages within this population, one from along the coast and the other from inland, but both are treated herein as a single species and no subspecies is named. It is believed the two clades diverged from one another between one and one and a half million years ago.

Exceptional to the north of the Fortescue River distribution of *S. richardwellsi* is the mainly allopatric species *S. timhudsoni* sp. nov. found south of the Burrup Peninsula along the Pilbara coast at least as far south as Cape Preston, and quite likely as far as the ocean outfall of the Fortescue River. *S. richardwellsi* and *S. timhudsoni* sp. nov. both occur around Karratha and are presumably sympatric in this immediate area.

S. flyingfoamassacre sp. nov. is an associated species, found south of the Fortescue River that occurs in the Pannawonnica area of the Pilbara extending at least as far east as Mount Elvira.

S. murderingpoliceorum sp. nov. is found south of the Cane River, generally around Mount Minnie and the nearby Parry Range, with a distribution bound by the Ashburton River to the south.

S. dhuae sp. nov. has a restricted range centered on Mount DeCoucey, which is in the region between the Red Hill Creek in the north and Cane River in the south, being at the far western edge of the Hamersley Ranges.

S. fildesi sp. nov. is found south of the Ashburton River in the Barlee Range and nearby hills, south of the Ashburton River and north of the flat lands further south.

S. exy sp. nov. is the taxon from the Cape Range district, being most similar to the two previously named species.

Within the main Hamersley Ranges and Chichester Range to the north-west are three other well-defined species. These are:

S. johnpati sp. nov. which is found in the Chichester Range district and immediately west only.

S. iancooki sp. nov. which is found in the central Hamersley Ranges generally around Tom Price and Karijini National Park to the east.

S. cashcow sp. nov. which is found from Weeli Wolli Creek east to the town of Newman and Fortescue River, in an area known as the Ophthalmia Range.

While all the preceding species are morphologically very similar, they can all be separated from one another by the following character traits.

S. richardwellsi sp. nov. is closely related to the type form of *S. ammodytes* (Montague, 1914) as well as the other 10 species, with which it has been confused.

S. richardwellsi sp. nov. is most readily separated from some of the other species by tail length, being 2.5 to 4 percent of the total length with 13 to 18 subcaudals in *S. richardwellsi sp. nov.* and 1.4 to 2 percent of the total length with 8 to 12 subcaudals in nominate *S. ammodytes* (Montague, 1914) and all the other species except for *S. johnpati sp. nov.*, *S. iancooki sp. nov.* and *S. cashcow sp. nov.* which is intermediate in this respect.

S. richardwellsi sp. nov. has a tail that is noticeably longer than broad, rather than the same length as broad in all the other species.

The upper nasal is as broad as the rostral in *S. richardwellsi sp. nov.*. This is not quite the case in nominate *S. ammodytes* (Montague, 1914).

S. flyingfoamsmassacre sp. nov. is similar in most respects to *S. richardwellsi sp. nov.*, being the species it is most closely related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having semi-distinct brown etching, versus distinct as seen in *S. richardwellsi sp. nov.*.

S. timhudsoni sp. nov. is similar in most respects to *S. richardwellsi sp. nov.*, and *S. flyingfoamsmassacre sp. nov.* being the two species they are most closely related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having not having brown etching, versus distinct as seen in *S. richardwellsi sp. nov.* or semi distinct as seen in *S. flyingfoamsmassacre sp. nov.*.

S. timhudsoni sp. nov. is further separated from *S. flyingfoamsmassacre sp. nov.* and *S. richardwellsi sp. nov.* by the fact that light whitish and brown marked scales of the snout are coloured this way back and beyond the line between the eyes, whereas this is not the case in *S. flyingfoamsmassacre sp. nov.* and *S. richardwellsi sp. nov.*.

Both *S. dhuae sp. nov.* and *S. murderingpoliceorum sp. nov.* are separated from the other ten species by having (as adults) a well-defined brownish coloured rostral, with a thick creamish coloured outline created by the nasal on either side, also brown edged on the outer edge.

S. murderingpoliceorum sp. nov. is separated from *S. dhuae sp. nov.* by the fact that the rostral barely

touches the prefrontal, versus well connected in *S. dhuae sp. nov.*.

S. murderingpoliceorum sp. nov. is further separated from the other ten species by having a dorsum that is not obviously pinkish in colour, but rather is purplish-brown. The head and collar are whitish on top (especially anteriorly), becoming light orange at the back of the head. The mid dorsum and tail region are a dark blackish brown. The blackish region distally commences well on the body and anterior to the ventral area.

S. fildesi sp. nov. is separated from the other 10 species by having a slight light orange tinge to the dorsum, dark brown on the lower neck, mid body and tail region, no lighter scales on the dark tipped tail region dorsal surface and a frontal shield that has a strongly curved edge going up the snout.

S. exy sp. nov. is separated from the other ten species by having a slight beige to yellow brown tinge underlying the purplish-brown dorsum. The dorsum is light beige anterior to the eyes, light orange about two times this distance behind the eyes, including the anterior neck, dark brown beyond this, but fading on the lower neck and anterior body, before darkening along the mid part of the dorsum. Posteriorly the dorsum lightens again, before becoming blackish near the tail region and including some of the body anterior to the tail. There are some obvious lighter scales on the dark tipped tail region dorsal surface, near the tail point. The frontal shield is weakly curved edged going up the snout.

S. johnpati sp. nov., *S. iancooki sp. nov.* and *S. cashcow sp. nov.* as a trio are separated from the other eight species by their relatively larger eye spot. It also sits at the back of the ocular scale, versus centre or slightly anterior in the other species.

The three species are also characterized by being a dark purplish-pink colour overall on top. The tip of the snout is a whitish colour, becoming light brown over the main part of the head and extending well past the eyes.

S. iancooki sp. nov. is separated from *S. johnpati sp. nov.*, and *S. cashcow sp. nov.* by the fact that adults retain tiny white or whitish spots in the centres of all or most dorsal scales, versus not so in the other two species. Both *S. johnpati sp. nov.* and *S. iancooki sp. nov.* have a rostral that is well joined to the prefrontal, versus only just touching at the centre in *S. cashcow sp. nov.*.

S. johnpati sp. nov. is of similar colour intensity dorsally along its entire length. *S. iancooki sp. nov.* is a slightly darker purplish colour on the lower neck and tail regions above.

S. cashcow sp. nov. has an obvious dark purplish brown colour on the lower neck, mid-section and tail region, with scattered dull white spotting on the posterior flanks of the tail section, all being distinguishable from the dark purplish-pink colour

overall on top.

The eleven preceding species are separated from all other Australian Blind Snakes by the following characteristics: a small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals.

These 11 species are separated from the similar *S. diversus* (Waite, 1894) clade of nine species as identified and named in this paper that as a group occurs in the Kimberley region, tropics of Australia and including nearby drier areas to far north-west Queensland by the shape of the rostral, being narrower and concave-sided versus straight-sided from above in the *S. diversus* (Waite, 1894) clade of species.

The eleven preceding species also have a more vertical orientation of the nasal cleft as opposed to extending forward to approximately the rostral in the *S. diversus* (Waite, 1894) clade of species.

The species *S. exy sp. nov.* and *S. fildesi sp. nov.* are both found south of the Ashburton River basin being isolated from other related species by the Ashburton River basin.

S. exy sp. nov. from the Cape Range to the west and *S. fildesi sp. nov.* from the Barlee Range to the east are separated from one another by substantial apparently featureless plains, which appear to form another barrier between introgression of the two taxa with each other or others.

This is in line with other species groups of elapid snakes and geckos previously formally identified and named by Myself (e.g. Hoser, 2002, 2018) the newly named taxa being Cape Range endemics.

Distribution: *S. exy sp. nov.* is a taxon apparently confined to the Cape Range district of Western Australia and occupies a known range of less than 1,000 square km.

This includes areas obviously not inhabited or occupied by the species.

It is therefore a range-restricted taxon and must be deemed vulnerable to extinction in the event of disease, pest species or decline in food source.

Etymology: *S. exy sp. nov.* is named in recognition of the cost expended in finding specimens of this taxon where it occurs for scientific research.

With scientists not being based in the area, and Cape Range being a remote location and lacking in other major economic activities, collecting expeditions have had to be mounted from Perth (the closest major town at 2 hours plane flight or 1250 km away by road), or even further afield, making the cost of just getting to Cape Range very expensive or “exy” as they say in Australian slang.

Hence the etymology for the species.

SLOPPTYPHLOPS JOHNPATI SP. NOV.

LSIDurn:lsid:zoobank.org:act:8E8A029E-51DB-4A78-9EDE-FF38E9917CBF

Holotype: A preserved specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R158097 collected from 5 km north northeast of Python Pool, Western Australia, Australia, Latitude -21.310278 S., Longitude 117.276111 E.

This government-owned facility allows access to its holdings.

Paratype: A preserved specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R146546 collected from Munni Munni, Western Australia, Australia, Latitude -21.129722 S., Longitude 116.803889 E.

Diagnosis: Until now, the putative species *Typhlops ammodytes* Montague, 1914, with a type locality of Hermite Island, Monte Bello Islands, Western Australia, Australia, Latitude -20.4610 S., Longitude 115.5252 E., has been treated as a taxon found throughout the Pilbara district of Western Australia, including outlier ranges, otherwise closely associated with the putative taxon *Typhlops diversus* Waite, 1914, with a type locality of “Morven, Qld”, but otherwise found from north western Queensland, across tropical Australia to the Kimberley district in Western Australia.

Cogger *et al.* (1983) synonymized the former with the latter, but most authors since have recognized both as separate taxa.

All are herein placed in the genus *Sloppytyphlops* Hoser, 2013, being over 20 MYA divergent from all other Australian Blind Snakes based on the phylogeny of Marin *et al.* (2012 and 2013).

The putative species *Typhlops ammodytes* Montague, 1914 is herein treated as 11 separate species.

The eleven species recognized herein are as follows: The type form of *S. ammodytes*, is restricted to the type locality, being the Montebello Islands and including Barrow Island.

S. richardwellsi Hoser, 2013 is the taxon found generally north and east of the Fortescue River. It is by far the most widespread species in the complex and the one encountered by most herpetologists who visit the Pilbara district. It is found in the region east of Newman and on the coast north of the Burrup Peninsula. There are two main lineages within this population, one from along the coast and the other from inland, but both are treated herein as a single species and no subspecies is named. It is believed the two clades diverged from one another between one and one and a half million years ago.

Exceptional to the north of the Fortescue River distribution of *S. richardwellsi* is the mainly allopatric species *S. timhudsoni sp. nov.* found south of the Burrup Peninsula along the Pilbara coast at least as far south as Cape Preston, and quite likely as

far as the ocean outfall of the Fortescue River. *S. richardwellsi* and *S. timhudsoni* sp. nov. both occur around Karratha and are presumably sympatric in this immediate area.

S. flyingfoammassacre sp. nov. is an associated species, found south of the Fortescue River that occurs in the Pannawonnicca area of the Pilbara extending at least as far east as Mount Elvira.

S. murderingpoliceorum sp. nov. is found south of the Cane River, generally around Mount Minnie and the nearby Parry Range, with a distribution bound by the Ashburton River to the south.

S. dhuae sp. nov. has a restricted range centered on Mount DeCoucey, which is in the region between the Red Hill Creek in the north and Cane River in the south, being at the far western edge of the Hamersley Ranges.

S. fildesi sp. nov. is found south of the Ashburton River in the Barlee Range and nearby hills, south of the Ashburton River and north of the flat lands further south.

S. exy sp. nov. is the taxon from the Cape Range district, being most similar to the two previously named species.

Within the main Hamersley Ranges and Chichester Range to the north-west are three other well-defined species. These are:

S. johnpati sp. nov. which is found in the Chichester Range district and immediately west only.

S. iancooki sp. nov. which is found in the central Hamersley Ranges generally around Tom Price and Karijini National Park to the east.

S. cashcow sp. nov. which is found from Weeli Wolli Creek east to the town of Newman and Fortescue River, in an area known as the Ophthalmia Range.

While all the preceding species are morphologically very similar, they can all be separated from one another by the following character traits.

S. richardwellsi sp. nov. is closely related to the type form of *S. ammodytes* (Montague, 1914) as well as the other 10 species, with which it has been confused.

S. richardwellsi sp. nov. is most readily separated from some of the other species by tail length, being 2.5 to 4 percent of the total length with 13 to 18 subcaudals in *S. richardwellsi* sp. nov. and 1.4 to 2 percent of the total length with 8 to 12 subcaudals in nominate *S. ammodytes* (Montague, 1914) and all the other species except for *S. johnpati* sp. nov., *S. iancooki* sp. nov. and *S. cashcow* sp. nov. which is intermediate in this respect.

S. richardwellsi sp. nov. has a tail that is noticeably longer than broad, rather than the same length as broad in all the other species.

The upper nasal is as broad as the rostral in *S. richardwellsi* sp. nov.. This is not quite the case in nominate *S. ammodytes* (Montague, 1914).

S. flyingfoammassacre sp. nov. is similar in most

respects to *S. richardwellsi* sp. nov., being the species it is most closely related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having semi-distinct brown etching, versus distinct as seen in *S. richardwellsi* sp. nov..

S. timhudsoni sp. nov. is similar in most respects to *S. richardwellsi* sp. nov., and *S. flyingfoammassacre* sp. nov. being the two species they are most closely related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having not having brown etching, versus distinct as seen in *S. richardwellsi* sp. nov. or semi distinct as seen in *S. flyingfoammassacre* sp. nov..

S. timhudsoni sp. nov. is further separated from *S. flyingfoammassacre* sp. nov. and *S. richardwellsi* sp. nov. by the fact that light whitish and brown marked scales of the snout are coloured this way back and beyond the line between the eyes, whereas this is not the case in *S. flyingfoammassacre* sp. nov. and *S. richardwellsi* sp. nov..

Both *S. dhuae* sp. nov. and *S. murderingpoliceorum* sp. nov. are separated from the other ten species by having (as adults) a well-defined brownish coloured rostral, with a thick creamish coloured outline created by the nasal on either side, also brown edged on the outer edge.

S. murderingpoliceorum sp. nov. is separated from *S. dhuae* sp. nov. by the fact that the rostral barely touches the prefrontal, versus well connected in *S. dhuae* sp. nov..

S. murderingpoliceorum sp. nov. is further separated from the other ten species by having a dorsum that is not obviously pinkish in colour, but rather is purplish-brown. The head and collar are whitish on top (especially anteriorly), becoming light orange at the back of the head. The mid dorsum and tail region are a dark blackish brown. The blackish region distally commences well on the body and anterior to the ventral area.

S. fildesi sp. nov. is separated from the other 10 species by having a slight light orange tinge to the dorsum, dark brown on the lower neck, mid body and tail region, no lighter scales on the dark tipped tail region dorsal surface and a frontal shield that has a strongly curved edge going up the snout.

S. exy sp. nov. is separated from the other ten species by having a slight beige to yellow brown tinge underlying the purplish-brown dorsum. The dorsum is light beige anterior to the eyes, light orange about two times this distance behind the eyes, including the anterior neck, dark brown beyond this, but fading on the lower neck and anterior body, before darkening along the mid part of the dorsum. Posteriorly the dorsum lightens again, before becoming blackish near the tail region and including some of the body anterior to the tail. There are some obvious lighter scales on

the dark tipped tail region dorsal surface, near the tail point. The frontal shield is weakly curved edged going up the snout.

S. johnpati sp. nov., *S. iancooki* sp. nov. and *S. cashcow* sp. nov. as a trio are separated from the other eight species by their relatively larger eye spot. It also sits at the back of the ocular scale, versus centre or slightly anterior in the other species.

The three species are also characterized by being a dark purplish-pink colour overall on top. The tip of the snout is a whitish colour, becoming light brown over the main part of the head and extending well past the eyes.

S. iancooki sp. nov. is separated from *S. johnpati* sp. nov., and *S. cashcow* sp. nov. by the fact that adults retain tiny white or whitish spots in the centres of all or most dorsal scales, versus not so in the other two species. Both *S. johnpati* sp. nov. and *S. iancooki* sp. nov. have a rostral that is well joined to the prefrontal, versus only just touching at the centre in *S. cashcow* sp. nov..

S. johnpati sp. nov. is of similar colour intensity dorsally along its entire length. *S. iancooki* sp. nov. is a slightly darker purplish colour on the lower neck and tail regions above.

S. cashcow sp. nov. has an obvious dark purplish brown colour on the lower neck, mid-section and tail region, with scattered dull white spotting on the posterior flanks of the tail section, all being distinguishable from the dark purplish-pink colour overall on top.

The eleven preceding species are separated from all other Australian Blind Snakes by the following characteristics: a small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals. These 11 species are separated from the similar *S. diversus* (Waite, 1894) clade of nine species as identified and named in this paper that as a group occurs in the Kimberley region, tropics of Australia and including nearby drier areas to far north-west Queensland by the shape of the rostral, being narrower and concave-sided versus straight-sided from above in the *S. diversus* (Waite, 1894) clade of species.

The eleven preceding species also have a more vertical orientation of the nasal cleft as opposed to extending forward to approximately the rostral in the *S. diversus* (Waite, 1894) clade of species.

The species *S. exy* sp. nov. and *S. fildesi* sp. nov. are both found south of the Ashburton River basin being isolated from other related species by the Ashburton River basin.

S. exy sp. nov. from the Cape Range to the west and *S. fildesi* sp. nov. from the Barlee Range to the

east are separated from one another by substantial apparently featureless plains, which appear to form another barrier between introgression of the two taxa with each other or others.

This is in line with other species groups of elapid snakes and geckos previously formally identified and named by Myself (e.g. Hoser, 2002, 2018) the newly named taxa being Cape Range endemics.

Distribution: *S. johnpati* sp. nov. is found in the Chichester Range district and immediately west only, essentially between the type locality for the holotype and the collection location for the single paratype. If distribution extends beyond this area, it is likely to extend east in the nearby Chichester Range area, but not to areas to the north or west.

Etymology: *S. johnpati* sp. nov. is named in honor of John Peter Pat, AKA John Pat (31 October 1966 - 28 September 1983) who was an Aboriginal Australian boy who, at the age of 16, was unlawfully bashed and killed by five racist West Australian police officers at Karratha in Western Australia.

Without any proper reason, the five bored police officers decided to beat John Pat to a pulp as part of a pre-planned "coon bashing". He was dead within an hour.

After a public outrage and media pressure, the five police officers were reluctantly put on a show trial on counts of manslaughter in the Supreme Court of Western Australia sitting in Karratha in May 1984. Following directions by a judge with casual regard for truth or rule of law, the all white jury picked by the prosecution acquitted each police officer by a "unanimous" verdict. By law in Australia a jury verdict can only be unanimous and the jury must deliberate until they get a unanimous verdict.

Jurors usually want to go home rather than forensically analyze evidence or the relevant law and so tend to deliberate to verdicts very quickly.

John Pat, is one of countless Aborigines killed by corrupt racist police, in turn protected by judges and magistrates, most of whom are cocaine addicted and do as asked by the police who supply them with their illicit drugs.

It is appropriate that rather than naming a species in honor of a racist murderer, or wholly corrupt judicial officer as has been done too many times in Australia's past, a species is instead named recognizing one of their countless victims.

SLOPPTYPHLOPS IANCOOKI SP. NOV.

LSIDurn:lsid:zoobank.org:act:3B0B0B92-A1D3-4C4A-9EF7-7B5D34EE8DD4

Holotype: A preserved specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R127760 collected from 5 km south of the Mount Tom Price Mine, Western Australia, Australia, Latitude -22.808056 S., Longitude 117.748889 E.

This government-owned facility allows access to its holdings.

Paratypes: Two preserved specimens at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen numbers R127743 and R127814 both collected from 5 km south of the Mount Tom Price Mine, Western Australia, Australia, Latitude -22.808056 S., Longitude 117.748889 E.

Diagnosis: Until now, the putative species *Typhlops ammodytes* Montague, 1914, with a type locality of Hermite Island, Monte Bello Islands, Western Australia, Australia, Latitude -20.4610 S., Longitude 115.5252 E., has been treated as a taxon found throughout the Pilbara district of Western Australia, including outlier ranges, otherwise closely associated with the putative taxon *Typhlops diversus* Waite, 1914, with a type locality of "Morven, Qld", but otherwise found from north western Queensland, across tropical Australia to the Kimberley district in Western Australia.

Cogger *et al.* (1983) synonymized the former with the latter, but most authors since have recognized both as separate taxa.

All are herein placed in the genus *Sloppytyphlops* Hoser, 2013, being over 20 MYA divergent from all other Australian Blind Snakes based on the phylogeny of Marin *et al.* (2012 and 2013).

The putative species *Typhlops ammodytes* Montague, 1914 is herein treated as 11 separate species.

The eleven species recognized herein are as follows:

The type form of *S. ammodytes*, is restricted to the type locality, being the Montebello Islands and including Barrow Island.

S. richardwellsi Hoser, 2013 is the taxon found generally north and east of the Fortescue River. It is by far the most widespread species in the complex and the one encountered by most herpetologists who visit the Pilbara district. It is found in the region east of Newman and on the coast north of the Burrup Peninsula. There are two main lineages within this population, one from along the coast and the other from inland, but both are treated herein as a single species and no subspecies is named. It is believed the two clades diverged from one another between one and one and a half million years ago.

Exceptional to the north of the Fortescue River distribution of *S. richardwellsi* is the mainly allopatric species *S. timhudsoni* sp. nov. found south of the Burrup Peninsula along the Pilbara coast at least as far south as Cape Preston, and quite likely as far as the ocean outfall of the Fortescue River. *S. richardwellsi* and *S. timhudsoni* sp. nov. both occur around Karratha and are presumably sympatric in this immediate area.

S. flyingfoammassacre sp. nov. is an associated species, found south of the Fortescue River that occurs in the Pannawonnica area of the Pilbara extending at least as far east as Mount Elvira.

S. murderingpoliceorum sp. nov. is found south of the Cane River, generally around Mount Minnie and the nearby Parry Range, with a distribution bound by the Ashburton River to the south.

S. dhuae sp. nov. has a restricted range centered on Mount DeCoucey, which is in the region between the Red Hill Creek in the north and Cane River in the south, being at the far western edge of the Hamersley Ranges.

S. fildesi sp. nov. is found south of the Ashburton River in the Barlee Range and nearby hills, south of the Ashburton River and north of the flat lands further south.

S. exy sp. nov. is the taxon from the Cape Range district, being most similar to the two previously named species.

Within the main Hamersley Ranges and Chichester Range to the north-west are three other well-defined species. These are:

S. johnpati sp. nov. which is found in the Chichester Range district and immediately west only.

S. iancooki sp. nov. which is found in the central Hamersley Ranges generally around Tom Price and Karijini National Park to the east.

S. cashcow sp. nov. which is found from Weeli Wolli Creek east to the town of Newman and Fortescue River, in an area known as the Ophthalmia Range.

While all the preceding species are morphologically very similar, they can all be separated from one another by the following character traits.

S. richardwellsi sp. nov. is closely related to the type form of *S. ammodytes* (Montague, 1914) as well as the other 10 species, with which it has been confused.

S. richardwellsi sp. nov. is most readily separated from some of the other species by tail length, being 2.5 to 4 percent of the total length with 13 to 18 subcaudals in *S. richardwellsi* sp. nov. and 1.4 to 2 percent of the total length with 8 to 12 subcaudals in nominate *S. ammodytes* (Montague, 1914) and all the other species except for *S. johnpati* sp. nov., *S. iancooki* sp. nov. and *S. cashcow* sp. nov. which is intermediate in this respect.

S. richardwellsi sp. nov. has a tail that is noticeably longer than broad, rather than the same length as broad in all the other species.

The upper nasal is as broad as the rostral in *S. richardwellsi* sp. nov. This is not quite the case in nominate *S. ammodytes* (Montague, 1914).

S. flyingfoammassacre sp. nov. is similar in most respects to *S. richardwellsi* sp. nov., being the species it is most closely related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having semi-distinct brown etching, versus distinct as seen in *S. richardwellsi* sp. nov.

S. timhudsoni sp. nov. is similar in most respects to *S. richardwellsi* sp. nov., and *S. flyingfoammassacre* sp. nov. being the two species they are most closely

related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having not having brown etching, versus distinct as seen in *S. richardwellsi* sp. nov. or semi distinct as seen in *S. flyingfoammassacre* sp. nov..

S. timhudsoni sp. nov. is further separated from *S. flyingfoammassacre* sp. nov. and *S. richardwellsi* sp. nov. by the fact that light whitish and brown marked scales of the snout are coloured this way back and beyond the line between the eyes, whereas this is not the case in *S. flyingfoammassacre* sp. nov. and *S. richardwellsi* sp. nov..

Both *S. dhuae* sp. nov. and *S. murderingpoliceorum* sp. nov. are separated from the other ten species by having (as adults) a well-defined brownish coloured rostral, with a thick creamish coloured outline created by the nasal on either side, also brown edged on the outer edge.

S. murderingpoliceorum sp. nov. is separated from *S. dhuae* sp. nov. by the fact that the rostral barely touches the prefrontal, versus well connected in *S. dhuae* sp. nov..

S. murderingpoliceorum sp. nov. is further separated from the other ten species by having a dorsum that is not obviously pinkish in colour, but rather is purplish-brown. The head and collar are whitish on top (especially anteriorly), becoming light orange at the back of the head. The mid dorsum and tail region are a dark blackish brown. The blackish region distally commences well on the body and anterior to the ventral area.

S. fildesi sp. nov. is separated from the other 10 species by having a slight light orange tinge to the dorsum, dark brown on the lower neck, mid body and tail region, no lighter scales on the dark tipped tail region dorsal surface and a frontal shield that has a strongly curved edge going up the snout.

S. exy sp. nov. is separated from the other ten species by having a slight beige to yellow brown tinge underlying the purplish-brown dorsum. The dorsum is light beige anterior to the eyes, light orange about two times this distance behind the eyes, including the anterior neck, dark brown beyond this, but fading on the lower neck and anterior body, before darkening along the mid part of the dorsum. Posteriorly the dorsum lightens again, before becoming blackish near the tail region and including some of the body anterior to the tail. There are some obvious lighter scales on the dark tipped tail region dorsal surface, near the tail point. The frontal shield is weakly curved edged going up the snout.

S. johnpati sp. nov., *S. iancooki* sp. nov. and *S. cashcow* sp. nov. as a trio are separated from the other eight species by their relatively larger eye spot. It also sits at the back of the ocular scale, versus centre or slightly anterior in the other species.

The three species are also characterized by being a

dark purplish-pink colour overall on top. The tip of the snout is a whitish colour, becoming light brown over the main part of the head and extending well past the eyes.

S. iancooki sp. nov. is separated from *S. johnpati* sp. nov., and *S. cashcow* sp. nov. by the fact that adults retain tiny white or whitish spots in the centres of all or most dorsal scales, versus not so in the other two species. Both *S. johnpati* sp. nov. and *S. iancooki* sp. nov. have a rostral that is well joined to the prefrontal, versus only just touching at the centre in *S. cashcow* sp. nov..

S. johnpati sp. nov. is of similar colour intensity dorsally along its entire length. *S. iancooki* sp. nov. is a slightly darker purplish colour on the lower neck and tail regions above.

S. cashcow sp. nov. has an obvious dark purplish brown colour on the lower neck, mid-section and tail region, with scattered dull white spotting on the posterior flanks of the tail section, all being distinguishable from the dark purplish-pink colour overall on top.

The eleven preceding species are separated from all other Australian Blind Snakes by the following characteristics: a small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals.

These 11 species are separated from the similar *S. diversus* (Waite, 1894) clade of nine species as identified and named in this paper that as a group occurs in the Kimberley region, tropics of Australia and including nearby drier areas to far north-west Queensland by the shape of the rostral, being narrower and concave-sided versus straight-sided from above in the *S. diversus* (Waite, 1894) clade of species.

The eleven preceding species also have a more vertical orientation of the nasal cleft as opposed to extending forward to approximately the rostral in the *S. diversus* (Waite, 1894) clade of species.

The species *S. exy* sp. nov. and *S. fildesi* sp. nov. are both found south of the Ashburton River basin being isolated from other related species by the Ashburton River basin.

S. exy sp. nov. from the Cape Range to the west and *S. fildesi* sp. nov. from the Barlee Range to the east are separated from one another by substantial apparently featureless plains, which appear to form another barrier between introgression of the two taxa with each other or others.

This is in line with other species groups of elapid snakes and geckos previously formally identified and named by Myself (e.g. Hoser, 2002, 2018) the newly named taxa being Cape Range endemics.

Distribution: *S. iancooki sp. nov.* is found in the central Hamersley Ranges generally around Tom Price and the Karijini National Park to the east.

Etymology: *S. iancooki sp. nov.* is named in honor of Ian Cook a formerly successful businessman from Melbourne, Victoria.

His successful catering business "I Cook Food" in was shut down at gunpoint 2019 by Victorian Government Officials under the directive of health officer Brett Sutton and Dandenong Council Chief Executive Officer (CEO) John Bennie.

Cook was falsely accused of causing the death of an elderly woman from food poisoning.

To support the false claim a slug was planted on the floor of the kitchen in Cook's business by John Bennie's minions at the time of an armed raid by government officials.

That the slug had been planted by John Bennie's underlings to support the false claims against Cook was later confirmed in a Supreme Court finding in Cook's favor in 2023, giving the case the name of "Slug gate"

By then it was too late and by 2023 Cook had lost everything.

Cook's business, named "I Cook Food" lost its clients and had to lay off all 41 of its staff.

Cook's business was targeted in 2019 for "deletion" when a rival business associated with John Bennie sought the contracts and business Cook had.

Unable to offer anything better, the only way that they could get the business from "I Cook Food" was by fabricating claims against Cook and having him shut down.

Bennie the CEO of Dandenong Council had previously been CEO at the City of Manningham and was forced from his position after it became apparent that he was running a hotbed of corruption at the Manningham Council.

Brett Sutton became notorious in Victoria in 2000-2022 as the State's Chief Health Officer, where along with State Premier Daniel Andrews, he gave Victoria world record duration lockdowns in the name of controlling the Covid-19 outbreaks in the complete absence of any medical evidence in favor of the lockdowns.

Sutton and the Police enforcing the regulations at gunpoint also demanded people wear face masks at all times when in public.

This direction seemed lame and hypocritical after Sutton was photographed in a busy public place not wearing a face mask or any other face covering.

See at:

<https://www.news.com.au/world/coronavirus/australia/victorias-chief-health-officer-brett-sutton-spotted-without-mask/news-story/dcfcc05b7e45365180e4bfb5885ff3d6>

and

<https://www.heraldsun.com.au/coronavirus/maskless-chief-health-officer-brett-sutton-shamed-on-social-media-for-not-wearing-mask-at-picnic/news-story/f389196524d417486a3b4baec8d75304>

where it was written:

*"How Sutton's picnic became talk of social media
Chief Health Officer Brett Sutton's Bright picnic has sent social media into a frenzy - and when you see the pictures you'll quickly understand why."*

The severe brutally police-enforced ban on people gathering socially during the lockdowns also seemed lame after footage emerged of high profile citizens snorting cocaine at a late night rave party during a lockdown when all such social gatherings were banned.

The Police Commissioner gave all kinds of lame excuses as to why they would not charge the offenders.

Citizen's prosecutions, previously a fundamental right in so-called democratic countries were also outlawed for the first time ever (and remain so in Victoria) to "protect" the high profile offenders from being prosecuted by non-government people.

Only police and public servants now have a right to issue criminal proceedings against people.

In 2022, Ian Cook ran against Labor Party Premier Daniel Andrews in the former premier's seat of Mulgrave on a strong anti-corruption platform. Mr Cook pulled 18 per cent of the primary votes and outperformed the Liberal Party candidate.

This was quite a feat considering the State Controlled media, including the Australian Broadcasting Corporation (ABC) and Murdoch Press ran a well-organized campaign against Cook at the time.

Multiple "stooge" independents were fielded by the major parties in the State election for the purpose of splitting the "independent" vote and diverting preferences back to themselves, making it effectively impossible for people like Ian Cook to ever be elected.

In other words the allegedly democratic voting system in Australia is so shambolic as to be fraudulent and corrupt to the core.

At the time Ian Cook also noted that *"This government has spent millions trying to destroy us"*.

This money could have better been spent on studying and conserving wildlife, including Blind Snakes instead!

SLOPPTYPHLOPS CASHCOW SP. NOV.

LSIDurn:lsid:zoobank.org:act:C53A5380-180F-4DF0-8221-A3430CC1CB6F

Holotype: A preserved specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R121995 collected from Weeli Wolli Spring, Western Australia, Australia, Latitude -22.916667 S., Longitude 119.216667 E.

This facility allows access to its holdings.

Paratypes: Two preserved specimens at the Western Australian Museum (WAM), Perth, Western Australia, Australia, being specimen number R163235 from Jinayri Mine, Western Australia, Australia, Latitude -22.971389 S., Longitude 119.251111 E. and specimen number R119730 collected from Hope Downs, Western Australia, Australia, Latitude -22.956944 S., Longitude 119.138889 E.

Diagnosis: Until now, the putative species *Typhlops ammodytes* Montague, 1914, with a type locality of Hermite Island, Monte Bello Islands, Western Australia, Australia, Latitude -20.4610 S., Longitude 115.5252 E., has been treated as a taxon found throughout the Pilbara district of Western Australia, including outlier ranges, otherwise closely associated with the putative taxon *Typhlops diversus* Waite, 1914, with a type locality of "Morven, Qld", but otherwise found from north western Queensland, across tropical Australia to the Kimberley district in Western Australia.

Cogger *et al.* (1983) synonymized the former with the latter, but most authors since have recognized both as separate taxa.

All are herein placed in the genus *Sloppytyphlops* Hoser, 2013, being over 20 MYA divergent from all other Australian Blind Snakes based on the phylogeny of Marin *et al.* (2012 and 2013).

The putative species *Typhlops ammodytes* Montague, 1914 is herein treated as 11 separate species.

The eleven species recognized herein are as follows:

The type form of *S. ammodytes*, is restricted to the type locality, being the Montebello Islands and including Barrow Island.

S. richardwellsi Hoser, 2013 is the taxon found generally north and east of the Fortescue River. It is by far the most widespread species in the complex and the one encountered by most herpetologists who visit the Pilbara district. It is found in the region east of Newman and on the coast north of the Burrup Peninsula. There are two main lineages within this population, one from along the coast and the other from inland, but both are treated herein as a single species and no subspecies is named. It is believed the two clades diverged from one another between one and one and a half million years ago.

Exceptional to the north of the Fortescue River distribution of *S. richardwellsi* is the mainly allopatric species *S. timhudsoni* sp. nov. found south of the Burrup Peninsula along the Pilbara coast at least as far south as Cape Preston, and quite likely as far as the ocean outfall of the Fortescue River. *S. richardwellsi* and *S. timhudsoni* sp. nov. both occur around Karratha and are presumably sympatric in this immediate area.

S. flyingfoammassacre sp. nov. is an associated species, found south of the Fortescue River that occurs in the Pannawonnica area of the Pilbara extending at least as far east as Mount Elvira.

S. murderingpoliceorum sp. nov. is found south of the Cane River, generally around Mount Minnie and the nearby Parry Range, with a distribution bound by the Ashburton River to the south.

S. dhuae sp. nov. has a restricted range centered on Mount DeCoucey, which is in the region between the Red Hill Creek in the north and Cane River in the south, being at the far western edge of the Hamersley Ranges.

S. fildesi sp. nov. is found south of the Ashburton River in the Barlee Range and nearby hills, south of the Ashburton River and north of the flat lands further south.

S. exy sp. nov. is the taxon from the Cape Range district, being most similar to the two previously named species.

Within the main Hamersley Ranges and Chichester Range to the north-west are three other well-defined species. These are:

S. johnpati sp. nov. which is found in the Chichester Range district and immediately west only.

S. iancooki sp. nov. which is found in the central Hamersley Ranges generally around Tom Price and Karijini National Park to the east.

S. cashcow sp. nov. which is found from Weeli Wolli Creek east to the town of Newman and Fortescue River, in an area known as the Ophthalmia Range.

While all the preceding species are morphologically very similar, they can all be separated from one another by the following character traits.

S. richardwellsi sp. nov. is closely related to the type form of *S. ammodytes* (Montague, 1914) as well as the other 10 species, with which it has been confused.

S. richardwellsi sp. nov. is most readily separated from some of the other species by tail length, being 2.5 to 4 percent of the total length with 13 to 18 subcaudals in *S. richardwellsi* sp. nov. and 1.4 to 2 percent of the total length with 8 to 12 subcaudals in nominate *S. ammodytes* (Montague, 1914) and all the other species except for *S. johnpati* sp. nov., *S. iancooki* sp. nov. and *S. cashcow* sp. nov. which is intermediate in this respect.

S. richardwellsi sp. nov. has a tail that is noticeably longer than broad, rather than the same length as broad in all the other species.

The upper nasal is as broad as the rostral in *S. richardwellsi* sp. nov. This is not quite the case in nominate *S. ammodytes* (Montague, 1914).

S. flyingfoammassacre sp. nov. is similar in most respects to *S. richardwellsi* sp. nov., being the species it is most closely related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having semi-distinct brown etching, versus distinct as seen in *S. richardwellsi* sp. nov.

S. timhudsoni sp. nov. is similar in most respects to *S. richardwellsi* sp. nov., and *S. flyingfoammassacre* sp. nov. being the two species they are most closely

related to. It differs in the upper nasal not being as broad as the rostral and the scales around the snout between the eyes having not having brown etching, versus distinct as seen in *S. richardwellsi* sp. nov. or semi distinct as seen in *S. flyingfoammassacre* sp. nov..

S. timhudsoni sp. nov. is further separated from *S. flyingfoammassacre* sp. nov. and *S. richardwellsi* sp. nov. by the fact that light whitish and brown marked scales of the snout are coloured this way back and beyond the line between the eyes, whereas this is not the case in *S. flyingfoammassacre* sp. nov. and *S. richardwellsi* sp. nov..

Both *S. dhuae* sp. nov. and *S. murderingpoliceorum* sp. nov. are separated from the other ten species by having (as adults) a well-defined brownish coloured rostral, with a thick creamish coloured outline created by the nasal on either side, also brown edged on the outer edge.

S. murderingpoliceorum sp. nov. is separated from *S. dhuae* sp. nov. by the fact that the rostral barely touches the prefrontal, versus well connected in *S. dhuae* sp. nov..

S. murderingpoliceorum sp. nov. is further separated from the other ten species by having a dorsum that is not obviously pinkish in colour, but rather is purplish-brown. The head and collar are whitish on top (especially anteriorly), becoming light orange at the back of the head. The mid dorsum and tail region are a dark blackish brown. The blackish region distally commences well on the body and anterior to the ventral area.

S. fildesi sp. nov. is separated from the other 10 species by having a slight light orange tinge to the dorsum, dark brown on the lower neck, mid body and tail region, no lighter scales on the dark tipped tail region dorsal surface and a frontal shield that has a strongly curved edge going up the snout.

S. exy sp. nov. is separated from the other ten species by having a slight beige to yellow brown tinge underlying the purplish-brown dorsum. The dorsum is light beige anterior to the eyes, light orange about two times this distance behind the eyes, including the anterior neck, dark brown beyond this, but fading on the lower neck and anterior body, before darkening along the mid part of the dorsum. Posteriorly the dorsum lightens again, before becoming blackish near the tail region and including some of the body anterior to the tail. There are some obvious lighter scales on the dark tipped tail region dorsal surface, near the tail point. The frontal shield is weakly curved edged going up the snout.

S. johnpati sp. nov., *S. iancooki* sp. nov. and *S. cashcow* sp. nov. as a trio are separated from the other eight species by their relatively larger eye spot. It also sits at the back of the ocular scale, versus centre or slightly anterior in the other species.

The three species are also characterized by being a

dark purplish-pink colour overall on top. The tip of the snout is a whitish colour, becoming light brown over the main part of the head and extending well past the eyes.

S. iancooki sp. nov. is separated from *S. johnpati* sp. nov., and *S. cashcow* sp. nov. by the fact that adults retain tiny white or whitish spots in the centres of all or most dorsal scales, versus not so in the other two species. Both *S. johnpati* sp. nov. and *S. iancooki* sp. nov. have a rostral that is well joined to the prefrontal, versus only just touching at the centre in *S. cashcow* sp. nov..

S. johnpati sp. nov. is of similar colour intensity dorsally along its entire length. *S. iancooki* sp. nov. is a slightly darker purplish colour on the lower neck and tail regions above.

S. cashcow sp. nov. has an obvious dark purplish brown colour on the lower neck, mid-section and tail region, with scattered dull white spotting on the posterior flanks of the tail section, all being distinguishable from the dark purplish-pink colour overall on top.

The eleven preceding species are separated from all other Australian Blind Snakes by the following characteristics: a small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals.

These 11 species are separated from the similar *S. diversus* (Waite, 1894) clade of nine species as identified and named in this paper that as a group occurs in the Kimberley region, tropics of Australia and including nearby drier areas to far north-west Queensland by the shape of the rostral, being narrower and concave-sided versus straight-sided from above in the *S. diversus* (Waite, 1894) clade of species.

The eleven preceding species also have a more vertical orientation of the nasal cleft as opposed to extending forward to approximately the rostral in the *S. diversus* (Waite, 1894) clade of species.

The species *S. exy* sp. nov. and *S. fildesi* sp. nov. are both found south of the Ashburton River basin being isolated from other related species by the Ashburton River basin.

S. exy sp. nov. from the Cape Range to the west and *S. fildesi* sp. nov. from the Barlee Range to the east are separated from one another by substantial apparently featureless plains, which appear to form another barrier between introgression of the two taxa with each other or others.

This is in line with other species groups of elapid snakes and geckos previously formally identified and named by Myself (e.g. Hoser, 2002, 2018) the newly named taxa being Cape Range endemics.

Distribution: *S. cashcow* sp. nov. is found from Weeli Wolli Creek east to the town of Newman and the Fortescue River, in an area known as the Ophthalmia Range.

Etymology: *S. cashcow* sp. nov. is named in reflection of what it effectively is.

The holotype of this species was caught by collectors working for a company called Ecologia, a massive Perth-based environmental consulting company.

As part of the charade of pretending to be concerned about environmental welfare, the State and Federal Governments of Australia demand mining companies and other major corporates do endless field surveys and the like to determine what “protected” animals occupy lands slated for almost any kind of “development”.

With all native vertebrates listed as “protected” staff with companies like Ecologia are paid huge sums of money to collect and record animals seen, before the bulldozers come in and wipe them out.

People make money out of the “protected species” but in reality, none actually benefit in any long term way from the monies spent. However, the species do act as cash cows for the public servants administering the scheme and the environmental consultants working on the ground in places like the Ophthalmia Range.

See also the etymology for *Cyclodomorphus cashcow* Hoser, 2025 on pages 14-16 in Hoser (2025b).

SLOPPYTYPHLOPS FARKINELLE SP. NOV.

LSIDurn:lsid:zoobank.org:act:D308342E-44E9-410C-8860-07E576166246

Holotype: A preserved adult specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R112027 collected from Beagle Bay Aboriginal Community, Western Australia, Australia, Latitude -17.059722 S., Longitude 122.716667 E.

This government-owned facility allows access to its holdings.

Paratype: A preserved specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R46482 collected from Beagle Bay Aboriginal Community, Western Australia, Australia, Latitude -17.059722 S., Longitude 122.716667 E.

Diagnosis: Until now, the putative taxon *Sloppytyphlops diversus* (Waite, 1894), with a type locality of west Queensland has been treated by all publishing authors as a single wide-ranging taxon, found in the tropical and near tropical section of Australia including far western Queensland, most of the Northern Territory and northwest Western Australia.

However, the published phylogenies of Marin *et al.* (2012 and 2013) have indicated nine separate species, each divergent from one another on average of about 2.5 MYA.

The eight other forms are formally named herein.

Nominate *S. diversus* is herein confined to north-west Queensland, generally east of the Georgina River and not including the southern parts of the Gulf of Carpentaria.

S. farkinelle sp. nov. is a taxon found in the south-west Kimberley district of western Australia and apparently confined to this area.

S. ivebeenshaton sp. nov. is the taxon that occurs in most of the top end of the Northern Territory, including the west and south of the Gulf of Carpentaria.

S. shittyingie sp. nov. occurs in the deserts to the southeast of the Kimberley District in Western Australia, entering the far west of nearby Northern Territory.

S. datsquirmy sp. nov. is a taxon from the Tenant Creek and Simpson Desert region of the central east of the Northern territory, entering far west Queensland, west of the Georgina River basin.

S. antmuncha sp. nov. is a taxon only known from Supplejack Downs at the northern part of the Tanami region in the Northern Territory.

S. murraybrucei sp. nov. is a taxon from the upper Ord Drainage system, generally from around Lake Argyle and further south.

S. hawkeswoodi sp. nov. is from Carlton Hill Station, north-east Kimberley district, Western Australia, extending east into the lower (coastal) Victoria River district in the Northern Territory.

S. jarrodbinghami sp. nov. is a divergent form from around Kununurra in the east Kimberley district of Western Australia.

The nine species are separated from one another as follows:

The type form of *S. diversus* is a strongly bright pinkish coloured snake with a slight purplish tinge, this being the dorsal or visible colouration. Anterior part of the snout is a light whitish brown, becoming light brown at about the line between the eyes, rapidly turning the same pink as the dorsum at this general area. There is no well-defined demarcation of colour charge and there is only a very faint light creamish etching to the scales of the snout region. Belly is a lighter pinkish white, the colour change poorly defined on the lower flank. Commencing anterior to the tail, the tail region develops a very slight and barely noticeable brownish tinge. The black eye spot is slightly below centre of the ocular scale.

S. farkinelle sp. nov. is a dull pinkish colour on top. Extending from a whitish snout tip, the front, middle and back of the upper surfaces of the head are dark brown with well-defined thick cream etchings to each scale, this extending to the back of the head and well behind the eyes, either as far or slightly further than the distance from snout to centre of the frontal.

The venter is white and well demarcated on the lower flank with a jagged edge, being caused by the infusion of white scales over the dark along the

position of the lower lateral line. Only anteriorly is this demarcation line not well defined. Commencing slightly anterior to the tail there is a noticeable but slight brownish tinge. The black eye spot is slightly below centre and slightly posterior to centre of the ocular scale. The length is 55-70 times the body diameter.

S. ivebeenshaton sp. nov. is a purplish coloured snake on top. The scales of the venter are ivory white with small purple patches at the anterior part of each. The demarcation line between dark upper and light lower body on the lower flank is straight edged, the colour change cutting across the edges of the scales rather than being of the form a scale is either all dark or all light to create a jagged edge. This demarcation line is well-defined for the entire length of the snake, commencing at the back of the head.

The end of the tail on top is the same colour as the rest of the dorsum. The snout is usually the same colour as the dorsum, or sometimes the most anterior scales have a brownish tinge. They have moderately well-defined white etching. Only at the very tip of the snout is there a white patch. Prefrontal is 2-3 times larger than the frontal. The black eye spot is situated at the centre of the ocular scale. Length is 40-50 times the body diameter.

S. shittithingie sp. nov. is a brilliant light whitish pink coloured snake on top. Tip of snout and end of tail is a light yellow colour. There is no white or whitish at the tip of the snout. Lower flanks are also pinkish and there is a fading to whitish pink in colour only well under the belly. Where there is a line demarcating dark upper and lighter lower body on the lower flank in other species, there is an ill-defined darker purple edge, with above and below it being the usual colour of the rest of the dorsum, with the lower area gradually fading under the belly. There is no obvious etching of the scales on the head. The black eye spot is situated slightly below the centre of the ocular scale. Length is 50-60 times the body diameter.

S. datsquirmy sp. nov. is a pinkish coloured snake on top with a strong yellowish tinge throughout the dorsum. tip of snout and end of tail are a fraction lighter than the rest of the body and lack obvious etchings between the scales. There is an indistinct and jagged edged border between dark upper and whitish lower body on the lower flank of consistent nature along the length of the snake. The jagged edge is caused by light and dark scales bordering one another. Length is 50-65 times the body diameter. The black eye spot is placed well back in the ocular scale and usually noticeably lower than centre..

S. antmuncha sp. nov. is a purplish-pink coloured snake on top. Head is dark brown rather than purple, with the very tip of snout becoming whitish in colour. There is a faint lighter etching of scales of the scales of the snout.

From before the vent the tail is brownish in colour

on top and the tail tip is nearly black. The venter is a whitish version of the dorsum and there is no obvious demarcation between dark upper and lighter lower body on the lower flank or belly.

The rostral scale is particularly wide and squarish in shape, though narrowing slightly on the lower edges. The nasal is also expanded in size, impinging and reducing the sizes of the adjacent scales. Length is 55-70 times the body diameter. Black eye spot is relatively small and slightly anterior in the nasal, this caused by the expansion of the more anterior scales.

S. murraybrucei sp. nov. is a dark brown coloured snake on top. The anterior of the head is a more muddy brown colour, as opposed to the yellowish brown of the body. There is no obvious etching of scales on the head and the end of the tail has a slight greyish tinge. The demarcation between brownish upper body and creamish lower body on the lower flank is quite well-defined and the border is jagged edged, caused by the meeting of rows of dark and light scales. Top edge of the rostral is pointed sharply and barely touches the prefrontal.

On the dorsum, each scale has a faint but darker blackish centre, meaning that when viewed as a whole the snake appears to have faint longitudinal stripes.

S. hawkeswoodi sp. nov. is similar in most respects to *S. antmuncha sp. nov.* as described above. It is separated from that species and all the others in this complex by being a dark brownish coloured snake on top, obvious yellow or beige etching of scales on the front of the head and a distinctive yellow venter, strongly demarcated from the upper body colour on the lower flanks. Head is of similar colour to the body but generally lighter, but there is no lightening at the tip of snout or anterior snout. Length is 45-55 times the body diameter. Prefrontal is nearly as large as the frontal. Rostral is wider at top than bottom. Nasal is not enlarged in size and eye spot is at centre of the ocular scale.

S. jarrodbinghami sp. nov. is an even brownish colour on top, with a neck that is purplish in colour and a tail that is dark brown, ending in a near black tip. Centres of scales on the dorsum and flanks are brown and outer edges are slightly darker in colour as an ill-defined etching. Eye spot is in the centre of the ocular scale, or slightly anterior. Nasal is not expanded in size. Rostral, is square-sided except at the top, where it forms a triangle barely touching the preocular. Head is more-or less the same colour as the body and the end of the tail a different shade of purplish brown to the rest of the body. There is no obvious etching of scales on the snout. Venter is creamish and the edge of light and dark on the flank is reasonably well-defined and jagged edged formed by the interplay of a row of dark shields on top versus light shields below. Length is 55-65 times the body diameter.

The nine preceding species are separated from

all other Australian Blind Snakes by the following characteristics: A small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals. These 9 species are separated from the similar *S. ammodytes* (Montague, 1914) clade of eleven species as identified and named in this paper that as a group occurs in the Pilbara of Western Australia by the shape of the rostral, being straight-sided from above (except perhaps the most upper edges, or sometimes an inward turn, then straight again midway down the scale, versus narrower and concave-sided versus in the *S. ammodytes* (Montague, 1914) clade of species.

The nine preceding species also have a nasal cleft that extends forward to approximately the rostral scale, versus a more vertical orientation in the *S. ammodytes* clade of 11 species.

S. diversus is depicted in life online at:

<https://www.flickr.com/photos/ryanfrancis/14975362459/>

and

<https://www.flickr.com/photos/ryanfrancis/16007633642/>

and

<https://www.flickr.com/photos/ryanfrancis/14975437250/>

all from Mount Isa, Queensland, Australia, photographed by Ryan Francis, and

<https://www.flickr.com/photos/149281781@N05/51276095631/>

from Mount Isa, Queensland, Australia, photographed by Christina Zdenek.

S. farkinelle sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/58349528@N02/52297242557/>

from Broom, Western Australia, photographed by Jordan Mulder, and

<https://www.flickr.com/photos/julesfarquhar/52250606494/>

from Broom, Western Australia, photographed by taxonomic vandal and fake scientist Jules Farquhar.

S. ivebeenshaton sp. nov. is depicted in life in Storr, Smith and Johnstone (2002) page 101 at bottom left from Berrimah, NT and online at:

https://www.flickr.com/photos/zimny_anders/10895963323/

from the Gove area, Northern Territory, Australia photographed by Anders Zimny, and

<https://www.flickr.com/photos/58349528@N02/47969394316/>

from Arnhem Land, Northern Territory, Australia photographed by Jordan Mulder, and

https://www.flickr.com/photos/zimny_anders/53163503685/

<https://www.flickr.com/photos/53163503685/>

from Weddell (Darwin), Northern Territory, Australia photographed by Anders Zimny, and

<https://www.flickr.com/photos/171250498@N08/52400668964/>

from Wongalara, Northern Territory, Australia photographed by Wes Read.

S. shittythingie sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/jaricornelis/52462476259/>

from Tanami, Western Australia, photographed by Jari Cornelis, and

<https://www.flickr.com/photos/euprepiosaur/7237645530/>

from the southern Tanami Desert, Northern Territory, Australia, photographed by Stephen Zozaya.

S. datsquirmy sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/euprepiosaur/51654314525/>

from Davenport Range, Northern Territory, Australia photographed by Stephen Zozaya, and

https://www.flickr.com/photos/zimny_anders/50384861597/

from Cravens Peak, Queensland, Australia, photographed by Anders Zimny.

S. murraybrucei sp. nov. is depicted in life in Cogger 2014 on page 800 at top left, from Lake Argyle, Western Australia, photographed by Brad Maryan.

Distribution: *S. farkinelle* sp. nov. is a taxon found in the south-west Kimberley district of Western Australia and apparently confined to this area.

Etymology: It was in 1983, while I was collecting reptiles north of Broome in Western Australia when I pulled a specimen of this taxon out of a pillow case to show a Yawuru Aboriginal. He yelled “*farkinelle*” and ran away, so this is the etymology for the species.

SLOPPTYPHLOPS IVEBEENSHATON SP. NOV.

LSIDurn:lsid:zoobank.org:act:2F76CEED-1EDB-4E00-B738-23A05AC1AA65

Holotype: A preserved specimen at the Museum and Art Gallery of the Northern Territory, Darwin, Northern Territory, Australia, R19058 collected from Guluwuru Island, Wessel Islands, Northern Territory, Australia, Latitude -11.525 S., Longitude 136.417 E.

This facility allows access to its holdings.

Paratypes: 1/ A preserved specimen at the Museum and Art Gallery of the Northern Territory, Darwin, Northern Territory, Australia, R19071 collected from Guluwuru Island, Wessel Islands, Northern Territory, Australia, Latitude -11.525 S., Longitude 136.417 E., and 2/ A preserved specimen at the Museum and Art Gallery of the Northern Territory, Darwin, Northern Territory, Australia, R20279 collected from Bumaga Island, Wessel Islands, Northern Territory, Australia, Latitude -11.767 S., Longitude 136.083 E.

Diagnosis: Until now, the putative taxon *Sloppytyphlops diversus* (Waite, 1894), with a type locality of west Queensland has been treated by all publishing authors as a single wide-ranging taxon, found in the tropical and near tropical section of Australia including far western Queensland, most of the Northern Territory and northwest Western Australia.

However, the published phylogenies of Marin *et al.* (2012 and 2013) have indicated nine separate species, each divergent from one another on average of about 2.5 MYA.

The eight other forms are formally named herein.

Nominate *S. diversus* is herein confined to north-west Queensland, generally east of the Georgina River and not including the southern parts of the Gulf of Carpentaria.

S. farkinelle sp. nov. is a taxon found in the south-west Kimberley district of western Australia and apparently confined to this area.

S. ivebeenshaton sp. nov. is the taxon that occurs in most of the top end of the Northern Territory, including the west and south of the Gulf of Carpentaria.

S. shittyingie sp. nov. occurs in the deserts to the southeast of the Kimberley District in Western Australia, entering the far west of nearby Northern Territory.

S. datsquirmy sp. nov. is a taxon from the Tenant Creek and Simpson Desert region of the central east of the Northern territory, entering far west Queensland, west of the Georgina River basin.

S. antmuncha sp. nov. is a taxon only known from Supplejack Downs at the northern part of the Tanami region in the Northern Territory.

S. murraybrucei sp. nov. is a taxon from the upper Ord Drainage system, generally from around Lake Argyle and further south.

S. hawkeswoodi sp. nov. is from Carlton Hill Station, north-east Kimberley district, Western Australia, extending east into the lower (coastal) Victoria River district in the Northern Territory.

S. jarrodbinghami sp. nov. is a divergent form from around Kununurra in the east Kimberley district of Western Australia.

The nine species are separated from one another as follows:

The type form of *S. diversus* is a strongly bright pinkish coloured snake with a slight purplish tinge, this being the dorsal or visible colouration. Anterior part of the snout is a light whitish brown, becoming light brown at about the line between the eyes, rapidly turning the same pink as the dorsum at this general area. There is no well-defined demarcation of colour charge and there is only a very faint light creamish etching to the scales of the snout region. Belly is a lighter pinkish white, the colour change poorly defined on the lower flank. Commencing anterior to the tail, the tail region develops a very slight and barely

noticeable brownish tinge. The black eye spot is slightly below centre of the ocular scale.

S. farkinelle sp. nov. is a dull pinkish colour on top. Extending from a whitish snout tip, the front, middle and back of the upper surfaces of the head are dark brown with well-defined thick cream etchings to each scale, this extending to the back of the head and well behind the eyes, either as far or slightly further than the distance from snout to centre of the frontal.

The venter is white and well demarcated on the lower flank with a jagged edge, being caused by the infusion of white scales over the dark along the position of the lower lateral line. Only anteriorly is this demarcation line not well defined. Commencing slightly anterior to the tail there is a noticeable but slight brownish tinge. The black eye spot is slightly below centre and slightly posterior to centre of the ocular scale. Length is 55-70 times the body diameter.

S. ivebeenshaton sp. nov. is a purplish coloured snake on top. The scales of the venter are ivory white with small purple patches at the anterior part of each. The demarcation line between dark upper and light lower body on the lower flank is straight edged, the colour change cutting across the edges of the scales rather than being of the form a scale is either all dark or all light to create a jagged edge. This demarcation line is well-defined for the entire length of the snake, commencing at the back of the head.

The end of the tail on top is the same colour as the rest of the dorsum. The snout is usually the same colour as the dorsum, or sometimes the most anterior scales have a brownish tinge. They have moderately well-defined white etching. Only at the very tip of the snout is there a white patch. Prefrontal is 2-3 times larger than the frontal. The black eye spot is situated at the centre of the ocular scale. Length is 40-50 times the body diameter.

S. shittyingie sp. nov. is a brilliant light whitish pink coloured snake on top. Tip of snout and end of tail is a light yellow colour. There is no white or whitish at the tip of the snout. Lower flanks are also pinkish and there is a fading to whitish pink in colour only well under the belly. Where there is a line demarcating dark upper and lighter lower body on the lower flank in other species, there is an ill-defined darker purple edge, with above and below it being the usual colour of the rest of the dorsum, with the lower area gradually fading under the belly. There is no obvious etching of the scales on the head. The black eye spot is situated slightly below the centre of the ocular scale. Length is 50-60 times the body diameter.

S. datsquirmy sp. nov. is a pinkish coloured snake on top with a strong yellowish tinge throughout the dorsum. tip of snout and end of tail are a fraction lighter than the rest of the body and lack obvious etchings between the scales. There is an indistinct and jagged edged border between dark upper and whitish lower body on the lower flank of consistent

nature along the length of the snake. The jagged edge is caused by light and dark scales bordering one another. Length is 50-65 times the body diameter. The black eye spot is placed well back in the ocular scale and usually noticeably lower than centre..

S. antmuncha sp. nov. is a purplish-pink coloured snake on top. Head is dark brown rather than purple, with the very tip of snout becoming whitish in colour. There is a faint lighter etching of scales of the scales of the snout.

From before the vent the tail is brownish in colour on top and the tail tip is nearly black. The venter is a whitish version of the dorsum and there is no obvious demarcation between dark upper and lighter lower body on the lower flank or belly.

The rostral scale is particularly wide and squarish in shape, though narrowing slightly on the lower edges. The nasal is also expanded in size, impinging and reducing the sizes of the adjacent scales. Length is 55-70 times the body diameter. Black eye spot is relatively small and slightly anterior in the nasal, this caused by the expansion of the more anterior scales.

S. murraybrucei sp. nov. is a dark brown coloured snake on top. The anterior of the head is a more muddy brown colour, as opposed to the yellowish brown of the body. There is no obvious etching of scales on the head and the end of the tail has a slight greyish tinge. The demarcation between brownish upper body and creamish lower body on the lower flank is quite well-defined and the border is jagged edged, caused by the meeting of rows of dark and light scales. Top edge of the rostral is pointed sharply and barely touches the prefrontal.

On the dorsum, each scale has a faint but darker blackish centre, meaning that when viewed as a whole the snake appears to have faint longitudinal stripes.

S. hawkeswoodi sp. nov. is similar in most respects to *S. antmuncha* sp. nov. as described above. It is separated from that species and all the others in this complex by being a dark brownish coloured snake on top, obvious yellow or beige etching of scales on the front of the head and a distinctive yellow venter, strongly demarcated from the upper body colour on the lower flanks. Head is of similar colour to the body but generally lighter, but there is no lightening at the tip of snout or anterior snout. Length is 45-55 times the body diameter. Prefrontal is nearly as large as the frontal. Rostral is wider at top than bottom. Nasal is not enlarged in size and eye spot is at centre of the ocular scale.

S. jarrodbinghami sp. nov. is an even brownish colour on top, with a neck that is purplish in colour and a tail that is dark brown, ending in a near black tip. Centres of scales on the dorsum and flanks are brown and outer edges are slightly darker in colour as an ill-defined etching. Eye spot is in the centre of the ocular scale, or slightly anterior. Nasal is not expanded in

size. Rostral, is square-sided except at the top, where it forms a triangle barely touching the preocular. Head is more-or less the same colour as the body and the end of the tail a different shade of purplish brown to the rest of the body. There is no obvious etching of scales on the snout. Venter is creamish and the edge of light and dark on the flank is reasonably well-defined and jagged edged formed by the interplay of a row of dark shields on top versus light shields below. Length is 55-65 times the body diameter.

The nine preceding species are separated from all other Australian Blind Snakes by the following characteristics: A small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals. These 9 species are separated from the similar *S. ammodytes* (Montague, 1914) clade of eleven species as identified and named in this paper that as a group occurs in the Pilbara of Western Australia by the shape of the rostral, being straight-sided from above (except perhaps the most upper edges, or sometimes an inward turn, then straight again midway down the scale, versus narrower and concave-sided versus in the *S. ammodytes* (Montague, 1914) clade of species.

The nine preceding species also have a nasal cleft that extends forward to approximately the rostral scale, versus a more vertical orientation in the *S. ammodytes* clade of 11 species.

S. diversus is depicted in life online at:

<https://www.flickr.com/photos/ryanfrancis/14975362459/>

and

<https://www.flickr.com/photos/ryanfrancis/16007633642/>

and

<https://www.flickr.com/photos/ryanfrancis/14975437250/>

all from Mount Isa, Queensland, Australia, photographed by Ryan Francis, and

<https://www.flickr.com/photos/149281781@N05/51276095631/>

from Mount Isa, Queensland, Australia, photographed by Christina Zdenek.

S. farkinelle sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/58349528@N02/52297242557/>

from Broom, Western Australia, photographed by Jordan Mulder, and

<https://www.flickr.com/photos/julesfarquhar/52250606494/>

from Broom, Western Australia, photographed by taxonomic vandal and fake scientist Jules Farquhar.

S. ivebeenshaton sp. nov. is depicted in life in Storr,

Smith and Johnstone (2002) page 101 at bottom left from Berrimah, NT and online at:

https://www.flickr.com/photos/zimny_anders/10895963323/

from the Gove area, Northern Territory, Australia photographed by Anders Zimny, and
<https://www.flickr.com/photos/58349528@N02/47969394316/>

from Arnhem Land, Northern Territory, Australia photographed by Jordan Mulder, and
https://www.flickr.com/photos/zimny_anders/53163503685/

from Weddell (Darwin), Northern Territory, Australia photographed by Anders Zimny, and
<https://www.flickr.com/photos/171250498@N08/52400668964/>

from Wongalara, Northern Territory, Australia photographed by Wes Read.

S. shittythingie sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/jaricornelis/52462476259/>

from Tanami, Western Australia, photographed by Jari Cornelis, and

<https://www.flickr.com/photos/euprepiosaur/7237645530/>

from the southern Tanami Desert, Northern Territory, Australia, photographed by Stephen Zozaya.

S. datsquirmy sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/euprepiosaur/51654314525/>

from Davenport Range, Northern Territory, Australia photographed by Stephen Zozaya, and

https://www.flickr.com/photos/zimny_anders/50384861597/

from Cravens Peak, Queensland, Australia, photographed by Anders Zimny.

S. murraybrucei sp. nov. is depicted in life in Cogger 2014 on page 800 at top left, from Lake Argyle, Western Australia, photographed by Brad Maryan.

Distribution: *S. ivebeenshaton* sp. nov. occurs in most of the top end of the Northern Territory, including the west and south of the Gulf of Carpentaria.

Etymology: It was in January 1983, while I was collecting reptiles at the top end of the Northern Territory, when after a thunderstorm, myself and Charles Acheson were driving roads at night grabbing reptiles we saw crossing.

Immediately after Charles Acheson grabbed a specimen of this species he yelled “*ivebeenshaton*” which is the etymology of the species.

SLOPTYPHLOPS SHITTYTHINGIE SP. NOV.

LSIDurn:lsid:zoobank.org:act:51E7D1BB-C425-4C70-BA05-F859C7BD78D0

Holotype: A preserved adult specimen at the Western Australian Museum (WAM), Perth, Western Australia, Australia, specimen number R157402 collected from

the Tanami Desert, Western Australia, Australia, Latitude -19.898611 S., Longitude 128.865833 E.

This government-owned facility allows access to its holdings.

Paratypes: Three preserved specimens at the Western Australian Museum (WAM), Perth, Western Australia, Australia, being specimen numbers R157464 (adult female) and R157495 both collected from the Tanami Desert, Western Australia, Australia, Latitude -19.898611 S., Longitude 128.865833 E., and specimen number R110916 (adult male), collected from 117 km north northwest of the Tanami Downs Homestead, Western Australia, Australia, Latitude -19.889444 S., Longitude 128.86 E.

Diagnosis: Until now, the putative taxon *Sloppytyphlops diversus* (Waite, 1894), with a type locality of west Queensland has been treated by all publishing authors as a single wide-ranging taxon, found in the tropical and near tropical section of Australia including far western Queensland, most of the Northern Territory and northwest Western Australia.

However, the published phylogenies of Marin *et al.* (2012 and 2013) have indicated nine separate species, each divergent from one another on average of about 2.5 MYA.

The eight other forms are formally named herein.

Nominate *S. diversus* is herein confined to north-west Queensland, generally east of the Georgina River and not including the southern parts of the Gulf of Carpentaria.

S. farkinelle sp. nov. is a taxon found in the south-west Kimberley district of western Australia and apparently confined to this area.

S. ivebeenshaton sp. nov. is the taxon that occurs in most of the top end of the Northern Territory, including the west and south of the Gulf of Carpentaria.

S. shittythingie sp. nov. occurs in the deserts to the southeast of the Kimberley District in Western Australia, entering the far west of nearby Northern Territory.

S. datsquirmy sp. nov. is a taxon from the Tenant Creek and Simpson Desert region of the central east of the Northern Territory, entering far west Queensland, west of the Georgina River basin.

S. antmuncha sp. nov. is a taxon only known from Supplejack Downs at the northern part of the Tanami region in the Northern Territory.

S. murraybrucei sp. nov. is a taxon from the upper Ord Drainage system, generally from around Lake Argyle and further south.

S. hawkeswoodi sp. nov. is from Carlton Hill Station, north-east Kimberley district, Western Australia, extending east into the lower (coastal) Victoria River district in the Northern Territory.

S. jarrodbinghami sp. nov. is a divergent form from around Kununurra in the east Kimberley district of

Western Australia.

The nine species are separated from one another as follows:

The type form of *S. diversus* is a strongly bright pinkish coloured snake with a slight purplish tinge, this being the dorsal or visible colouration. Anterior part of the snout is a light whitish brown, becoming light brown at about the line between the eyes, rapidly turning the same pink as the dorsum at this general area. There is no well-defined demarcation of colour change and there is only a very faint light creamish etching to the scales of the snout region. Belly is a lighter pinkish white, the colour change poorly defined on the lower flank. Commencing anterior to the tail, the tail region develops a very slight and barely noticeable brownish tinge. The black eye spot is slightly below centre of the ocular scale.

S. farkinelle sp. nov. is a dull pinkish colour on top. Extending from a whitish snout tip, the front, middle and back of the upper surfaces of the head are dark brown with well-defined thick cream etchings to each scale, this extending to the back of the head and well behind the eyes, either as far or slightly further than the distance from snout to centre of the frontal.

The venter is white and well demarcated on the lower flank with a jagged edge, being caused by the infusion of white scales over the dark along the position of the lower lateral line. Only anteriorly is this demarcation line not well defined. Commencing slightly anterior to the tail there is a noticeable but slight brownish tinge. The black eye spot is slightly below centre and slightly posterior to centre of the ocular scale. Length is 55-70 times the body diameter.

S. ivebeenshaton sp. nov. is a purplish coloured snake on top. The scales of the venter are ivory white with small purple patches at the anterior part of each. The demarcation line between dark upper and light lower body on the lower flank is straight edged, the colour change cutting across the edges of the scales rather than being of the form a scale is either all dark or all light to create a jagged edge. This demarcation line is well-defined for the entire length of the snake, commencing at the back of the head.

The end of the tail on top is the same colour as the rest of the dorsum. The snout is usually the same colour as the dorsum, or sometimes the most anterior scales have a brownish tinge. They have moderately well-defined white etching. Only at the very tip of the snout is there a white patch. Prefrontal is 2-3 times larger than the frontal. The black eye spot is situated at the centre of the ocular scale. Length is 40-50 times the body diameter.

S. shittyingie sp. nov. is a brilliant light whitish pink coloured snake on top. Tip of snout and end of tail is a light yellow colour. There is no white or whitish at the tip of the snout. Lower flanks are also pinkish and there is a fading to whitish pink in colour only well under the belly. Where there is a line demarcating

dark upper and lighter lower body on the lower flank in other species, there is an ill-defined darker purple edge, with above and below it being the usual colour of the rest of the dorsum, with the lower area gradually fading under the belly. There is no obvious etching of the scales on the head. The black eye spot is situated slightly below the centre of the ocular scale. Length is 50-60 times the body diameter.

S. datsquirmy sp. nov. is a pinkish coloured snake on top with a strong yellowish tinge throughout the dorsum. tip of snout and end of tail are a fraction lighter than the rest of the body and lack obvious etchings between the scales. There is an indistinct and jagged edged border between dark upper and whitish lower body on the lower flank of consistent nature along the length of the snake. The jagged edge is caused by light and dark scales bordering one another. Length is 50-65 times the body diameter. The black eye spot is placed well back in the ocular scale and usually noticeably lower than centre..

S. antmuncha sp. nov. is a purplish-pink coloured snake on top. Head is dark brown rather than purple, with the very tip of snout becoming whitish in colour. There is a faint lighter etching of scales of the scales of the snout.

From before the vent the tail is brownish in colour on top and the tail tip is nearly black. The venter is a whitish version of the dorsum and there is no obvious demarcation between dark upper and lighter lower body on the lower flank or belly.

The rostral scale is particularly wide and squarish in shape, though narrowing slightly on the lower edges. The nasal is also expanded in size, impinging and reducing the sizes of the adjacent scales. Length is 55-70 times the body diameter. Black eye spot is relatively small and slightly anterior in the nasal, this caused by the expansion of the more anterior scales.

S. murraybrucei sp. nov. is a dark brown coloured snake on top. The anterior of the head is a more muddy brown colour, as opposed to the yellowish brown of the body. There is no obvious etching of scales on the head and the end of the tail has a slight greyish tinge. The demarcation between brownish upper body and creamish lower body on the lower flank is quite well-defined and the border is jagged edged, caused by the meeting of rows of dark and light scales. Top edge of the rostral is pointed sharply and barely touches the prefrontal.

On the dorsum, each scale has a faint but darker blackish centre, meaning that when viewed as a whole the snake appears to have faint longitudinal stripes.

S. hawkeswoodi sp. nov. is similar in most respects to *S. antmuncha* sp. nov. as described above. It is separated from that species and all the others in this complex by being a dark brownish coloured snake on top, obvious yellow or beige etching of scales on the front of the head and a distinctive yellow venter,

strongly demarcated from the upper body colour on the lower flanks. Head is of similar colour to the body but generally lighter, but there is no lightening at the tip of snout or anterior snout. Length is 45-55 times the body diameter. Prefrontal is nearly as large as the frontal. Rostral is wider at top than bottom. Nasal is not enlarged in size and eye spot is at centre of the ocular scale.

S. jarrodbinghami sp. nov. is an even brownish colour on top, with a neck that is purplish in colour and a tail that is dark brown, ending in a near black tip. Centres of scales on the dorsum and flanks are brown and outer edges are slightly darker in colour as an ill-defined etching. Eye spot is in the centre of the ocular scale, or slightly anterior. Nasal is not expanded in size. Rostral, is square-sided except at the top, where it forms a triangle barely touching the preocular. Head is more-or less the same colour as the body and the end of the tail a different shade of purplish brown to the rest of the body. There is no obvious etching of scales on the snout. Venter is creamish and the edge of light and dark on the flank is reasonably well-defined and jagged edged formed by the interplay of a row of dark shields on top versus light shields below. Length is 55-65 times the body diameter.

The nine preceding species are separated from all other Australian Blind Snakes by the following characteristics: A small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals. These 9 species are separated from the similar *S. ammodytes* (Montague, 1914) clade of eleven species as identified and named in this paper that as a group occurs in the Pilbara of Western Australia by the shape of the rostral, being straight-sided from above (except perhaps the most upper edges, or sometimes an inward turn, then straight again midway down the scale, versus narrower and concave-sided versus in the *S. ammodytes* (Montague, 1914) clade of species. The nine preceding species also have a nasal cleft that extends forward to approximately the rostral scale, versus a more vertical orientation in the *S. ammodytes* clade of 11 species.

S. diversus is depicted in life online at:

<https://www.flickr.com/photos/ryanfrancis/14975362459/>

and

<https://www.flickr.com/photos/ryanfrancis/16007633642/>

and

<https://www.flickr.com/photos/ryanfrancis/14975437250/>

all from Mount Isa, Queensland, Australia, photographed by Ryan Francis, and

<https://www.flickr.com/photos/149281781@N05/51276095631/>

from Mount Isa, Queensland, Australia, photographed by Christina Zdenek.

S. farkinelle sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/58349528@N02/52297242557/>

from Broom, Western Australia, photographed by Jordan Mulder, and

<https://www.flickr.com/photos/julesfarquhar/52250606494/>

from Broom, Western Australia, photographed by taxonomic vandal and fake scientist Jules Farquhar.

S. ivebeenshaton sp. nov. is depicted in life in Storr, Smith and Johnstone (2002) page 101 at bottom left from Berrimah, NT and online at:

https://www.flickr.com/photos/zimny_anders/10895963323/

from the Gove area, Northern Territory, Australia photographed by Anders Zimny, and

<https://www.flickr.com/photos/58349528@N02/47969394316/>

from Arnhem Land, Northern Territory, Australia photographed by Jordan Mulder, and

https://www.flickr.com/photos/zimny_anders/53163503685/

from Weddell (Darwin) , Northern Territory, Australia photographed by Anders Zimny, and

<https://www.flickr.com/photos/171250498@N08/52400668964/>

from Wongalara, Northern Territory, Australia photographed by Wes Read.

S. shittythingie sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/jaricornelis/52462476259/>

from Tanami, Western Australia, photographed by Jari Cornelis, and

<https://www.flickr.com/photos/euprepiosaur/7237645530/>

from the southern Tanami Desert, Northern Territory, Australia, photographed by Stephen Zozaya.

S. datsquirmy sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/euprepiosaur/51654314525/>

from Davenport Range, Northern Territory, Australia photographed by Stephen Zozaya, and

https://www.flickr.com/photos/zimny_anders/50384861597/

from Cravens Peak, Queensland, Australia, photographed by Anders Zimny.

S. murraybrucei sp. nov. is depicted in life in Cogger 2014 on page 800 at top left, from Lake Argyle, Western Australia, photographed by Brad Maryan.

Distribution: *S. shittythingie* sp. nov. occurs in the deserts to the southeast of the Kimberley District in Western Australia, entering the far west of the NT.

Etymology: It was in January 1981, when I discussed this taxon with a Warlpiri Aboriginal elder who seemed to be familiar with the species, or if not, confused with another similar Blind Snake from the Tanami region. He described it as a “shitty thingie” and hence the etymology.

SLOPPYTYPHLOPS DATSQUIRMY SP. NOV.

LSIDurn:lsid:zoobank.org:act:4ECD5B0E-B88B-4093-9FDD-6C7D429C1480

Holotype: A preserved specimen at the Queensland Museum, Brisbane, Queensland, Australia, specimen number J85421 collected from the Cravens Peak property, approximately 1.2 km northeast of Salty Bore, Southwest of Boulia, Queensland, Australia, Latitude -23.016389 S., Longitude 138.234444 E. This government-owned facility allows access to its holdings.

Paratype: A preserved specimen at the Queensland Museum, Brisbane, Queensland, Australia, specimen number J82151 collected from the Big Jewelry Waterhole, Glenormiston, Queensland, Australia, Latitude -23.291667 S., Longitude 138.730833 E.

Diagnosis: Until now, the putative taxon *Sloppytyphlops diversus* (Waite, 1894), with a type locality of west Queensland has been treated by all publishing authors as a single wide-ranging taxon, found in the tropical and near tropical section of Australia including far western Queensland, most of the Northern Territory and northwest Western Australia.

However, the published phylogenies of Marin *et al.* (2012 and 2013) have indicated nine separate species, each divergent from one another on average of about 2.5 MYA.

The eight other forms are formally named herein.

Nominate *S. diversus* is herein confined to north-west Queensland, generally east of the Georgina River and not including the southern parts of the Gulf of Carpentaria.

S. farkinelle sp. nov. is a taxon found in the south-west Kimberley district of western Australia and apparently confined to this area.

S. ivebeenshaton sp. nov. is the taxon that occurs in most of the top end of the Northern Territory, including the west and south of the Gulf of Carpentaria.

S. shittythingie sp. nov. occurs in the deserts to the southeast of the Kimberley District in Western Australia, entering the far west of nearby Northern Territory.

S. datsquirmy sp. nov. is a taxon from the Tenant Creek and Simpson Desert region of the central east of the Northern territory, entering far west Queensland, west of the Georgina River basin.

S. antmuncha sp. nov. is a taxon only known from Supplejack Downs at the northern part of the Tanami region in the Northern Territory.

S. murraybrucei sp. nov. is a taxon from the upper

Ord Drainage system, generally from around Lake Argyle and further south.

S. hawkeswoodi sp. nov. is from Carlton Hill Station, north-east Kimberley district, Western Australia, extending east into the lower (coastal) Victoria River district in the Northern Territory.

S. jarrodbinghami sp. nov. is a divergent form from around Kununurra in the east Kimberley district of Western Australia.

The nine species are separated from one another as follows:

The type form of *S. diversus* is a strongly bright pinkish coloured snake with a slight purplish tinge, this being the dorsal or visible colouration. Anterior part of the snout is a light whitish brown, becoming light brown at about the line between the eyes, rapidly turning the same pink as the dorsum at this general area. There is no well-defined demarcation of colour change and there is only a very faint light creamish etching to the scales of the snout region. Belly is a lighter pinkish white, the colour change poorly defined on the lower flank. Commencing anterior to the tail, the tail region develops a very slight and barely noticeable brownish tinge. The black eye spot is slightly below centre of the ocular scale.

S. farkinelle sp. nov. is a dull pinkish colour on top. Extending from a whitish snout tip, the front, middle and back of the upper surfaces of the head are dark brown with well-defined thick cream etchings to each scale, this extending to the back of the head and well behind the eyes, either as far or slightly further than the distance from snout to centre of the frontal.

The venter is white and well demarcated on the lower flank with a jagged edge, being caused by the infusion of white scales over the dark along the position of the lower lateral line. Only anteriorly is this demarcation line not well defined. Commencing slightly anterior to the tail there is a noticeable but slight brownish tinge. The black eye spot is slightly below centre and slightly posterior to centre of the ocular scale. Length is 55-70 times the body diameter.

S. ivebeenshaton sp. nov. is a purplish coloured snake on top. The scales of the venter are ivory white with small purple patches at the anterior part of each. The demarcation line between dark upper and light lower body on the lower flank is straight edged, the colour change cutting across the edges of the scales rather than being of the form a scale is either all dark or all light to create a jagged edge. This demarcation line is well-defined for the entire length of the snake, commencing at the back of the head.

The end of the tail on top is the same colour as the rest of the dorsum. The snout is usually the same colour as the dorsum, or sometimes the most anterior scales have a brownish tinge. They have moderately well-defined white etching. Only at the very tip of the snout is there a white patch. Prefrontal is 2-3 times larger than the frontal. The black eye spot is situated

at the centre of the ocular scale. Length is 40-50 times the body diameter.

S. shittyingie sp. nov. is a brilliant light whitish pink coloured snake on top. Tip of snout and end of tail is a light yellow colour. There is no white or whitish at the tip of the snout. Lower flanks are also pinkish and there is a fading to whitish pink in colour only well under the belly. Where there is a line demarcating dark upper and lighter lower body on the lower flank in other species, there is an ill-defined darker purple edge, with above and below it being the usual colour of the rest of the dorsum, with the lower area gradually fading under the belly. There is no obvious etching of the scales on the head. The black eye spot is situated slightly below the centre of the ocular scale. Length is 50-60 times the body diameter.

S. datsquirmy sp. nov. is a pinkish coloured snake on top with a strong yellowish tinge throughout the dorsum. tip of snout and end of tail are a fraction lighter than the rest of the body and lack obvious etchings between the scales. There is an indistinct and jagged edged border between dark upper and whitish lower body on the lower flank of consistent nature along the length of the snake. The jagged edge is caused by light and dark scales bordering one another. Length is 50-65 times the body diameter. The black eye spot is placed well back in the ocular scale and usually noticeably lower than centre..

S. antmuncha sp. nov. is a purplish-pink coloured snake on top. Head is dark brown rather than purple, with the very tip of snout becoming whitish in colour. There is a faint lighter etching of scales of the scales of the snout.

From before the vent the tail is brownish in colour on top and the tail tip is nearly black. The venter is a whitish version of the dorsum and there is no obvious demarcation between dark upper and lighter lower body on the lower flank or belly.

The rostral scale is particularly wide and squarish in shape, though narrowing slightly on the lower edges. The nasal is also expanded in size, impinging and reducing the sizes of the adjacent scales. Length is 55-70 times the body diameter. Black eye spot is relatively small and slightly anterior in the nasal, this caused by the expansion of the more anterior scales.

S. murraybrucei sp. nov. is a dark brown coloured snake on top. The anterior of the head is a more muddy brown colour, as opposed to the yellowish brown of the body. There is no obvious etching of scales on the head and the end of the tail has a slight greyish tinge. The demarcation between brownish upper body and creamish lower body on the lower flank is quite well-defined and the border is jagged edged, caused by the meeting of rows of dark and light scales. Top edge of the rostral is pointed sharply and barely touches the prefrontal.

On the dorsum, each scale has a faint but darker blackish centre, meaning that when viewed as a

whole the snake appears to have faint longitudinal stripes.

S. hawkeswoodi sp. nov. is similar in most respects to *S. antmuncha* sp. nov. as described above. It is separated from that species and all the others in this complex by being a dark brownish coloured snake on top, obvious yellow or beige etching of scales on the front of the head and a distinctive yellow venter, strongly demarcated from the upper body colour on the lower flanks. Head is of similar colour to the body but generally lighter, but there is no lightening at the tip of snout or anterior snout. Length is 45-55 times the body diameter. Prefrontal is nearly as large as the frontal. Rostral is wider at top than bottom. Nasal is not enlarged in size and eye spot is at centre of the ocular scale.

S. jarrodbinghami sp. nov. is an even brownish colour on top, with a neck that is purplish in colour and a tail that is dark brown, ending in a near black tip. Centres of scales on the dorsum and flanks are brown and outer edges are slightly darker in colour as an ill-defined etching. Eye spot is in the centre of the ocular scale, or slightly anterior. Nasal is not expanded in size. Rostral, is square-sided except at the top, where it forms a triangle barely touching the preocular. Head is more-or less the same colour as the body and the end of the tail a different shade of purplish brown to the rest of the body. There is no obvious etching of scales on the snout. Venter is creamish and the edge of light and dark on the flank is reasonably well-defined and jagged edged formed by the interplay of a row of dark shields on top versus light shields below. Length is 55-65 times the body diameter.

The nine preceding species are separated from all other Australian Blind Snakes by the following characteristics: A small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals. These 9 species are separated from the similar *S. ammodytes* (Montague, 1914) clade of eleven species as identified and named in this paper that as a group occurs in the Pilbara of Western Australia by the shape of the rostral, being straight-sided from above (except perhaps the most upper edges, or sometimes an inward turn, then straight again midway down the scale, versus narrower and concave-sided versus in the *S. ammodytes* (Montague, 1914) clade of species.

The nine preceding species also have a nasal cleft that extends forward to approximately the rostral scale, versus a more vertical orientation in the *S. ammodytes* clade of 11 species.

S. diversus is depicted in life online at:

<https://www.flickr.com/photos/ryanfrancis/14975362459/>

and
<https://www.flickr.com/photos/ryanfrancis/16007633642/>
 and
<https://www.flickr.com/photos/ryanfrancis/14975437250/>
 all from Mount Isa, Queensland, Australia, photographed by Ryan Francis, and
<https://www.flickr.com/photos/149281781@N05/51276095631/>
 from Mount Isa, Queensland, Australia, photographed by Christina Zdenek.
S. farkinelle sp. nov. is depicted in life online at:
<https://www.flickr.com/photos/58349528@N02/52297242557/>
 from Broom, Western Australia, photographed by Jordan Mulder, and
<https://www.flickr.com/photos/julesfarquhar/52250606494/>
 from Broom, Western Australia, photographed by taxonomic vandal and fake scientist Jules Farquhar.
S. ivebeenshaton sp. nov. is depicted in life in Storr, Smith and Johnstone (2002) page 101 at bottom left from Berrimah, NT and online at:
https://www.flickr.com/photos/zimny_anders/10895963323/
 from the Gove area, Northern Territory, Australia photographed by Anders Zimny, and
<https://www.flickr.com/photos/58349528@N02/47969394316/>
 from Arnhem Land, Northern Territory, Australia photographed by Jordan Mulder, and
https://www.flickr.com/photos/zimny_anders/53163503685/
 from Weddell (Darwin) , Northern Territory, Australia photographed by Anders Zimny, and
<https://www.flickr.com/photos/171250498@N08/52400668964/>
 from Wongalara, Northern Territory, Australia photographed by Wes Read.
S. shittyingie sp. nov. is depicted in life online at:
<https://www.flickr.com/photos/jaricornelis/52462476259/>
 from Tanami, Western Australia, photographed by Jari Cornelis, and
<https://www.flickr.com/photos/euprepiosaur/7237645530/>
 from the southern Tanami Desert, Northern Territory, Australia, photographed by Stephen Zozaya.
S. datsquirmy sp. nov. is depicted in life online at:
<https://www.flickr.com/photos/euprepiosaur/51654314525/>
 from Davenport Range, Northern Territory, Australia photographed by Stephen Zozaya, and
https://www.flickr.com/photos/zimny_anders/50384861597/

from Cravens Peak, Queensland, Australia, photographed by Anders Zimny.

S. murraybrucei sp. nov. is depicted in life in Cogger 2014 on page 800 at top left, from Lake Argyle, Western Australia, photographed by Brad Maryan.

Distribution: *S. datsquirmy* sp. nov. occurs in the Tenant Creek and Simpson Desert region of the central east of the Northern territory, entering far west Queensland, west of the Georgina River basin.

Etymology: It was in 1977, when I was in far west Queensland catching this species and I showed a specimen to an Aboriginal child from the Wangkangurru Yarluyandi tribe of the Simpson Desert. He made the comment “dat squirmy” and hence the etymology.

SLOPPYTYPHLOPS ANTMUNCHIA SP. NOV.

LSIDurn:lsid:zoobank.org:act:32C2D4F7-FB47-4054-A5ED-723605BDA200

Holotype: A preserved specimen at the Museum and Art Gallery of the Northern Territory, Darwin, Northern Territory, Australia, specimen number R16427 collected from 8 Mile Bore, at Supplejack Station, Northern Territory, Australia, Latitude -19.167 S., Longitude 129.917 E.

This government-owned facility allows access to its holdings.

Diagnosis: Until now, the putative taxon *Sloppytyphlops diversus* (Waite, 1894), with a type locality of west Queensland has been treated by all publishing authors as a single wide-ranging taxon, found in the tropical and near tropical section of Australia including far western Queensland, most of the Northern Territory and northwest Western Australia.

However, the published phylogenies of Marin *et al.* (2012 and 2013) have indicated nine separate species, each divergent from one another on average of about 2.5 MYA.

The eight other forms are formally named herein. Nominate *S. diversus* is herein confined to north-west Queensland, generally east of the Georgina River and not including the southern parts of the Gulf of Carpentaria.

S. farkinelle sp. nov. is a taxon found in the south-west Kimberley district of western Australia and apparently confined to this area.

S. ivebeenshaton sp. nov. is the taxon that occurs in most of the top end of the Northern Territory, including the west and south of the Gulf of Carpentaria.

S. shittyingie sp. nov. occurs in the deserts to the southeast of the Kimberley District in Western Australia, entering the far west of nearby Northern Territory.

S. datsquirmy sp. nov. is a taxon from the Tenant Creek and Simpson Desert region of the central east of the Northern territory, entering far west Queensland, west of the Georgina River basin.

S. antmuncha sp. nov. is a taxon only known from Supplejack Downs at the northern part of the Tanami region in the Northern Territory.

S. murraybrucei sp. nov. is a taxon from the upper Ord Drainage system, generally from around Lake Argyle and further south.

S. hawkeswoodi sp. nov. is from Carlton Hill Station, north-east Kimberley district, Western Australia, extending east into the lower (coastal) Victoria River district in the Northern Territory.

S. jarrodbinghami sp. nov. is a divergent form from around Kununurra in the east Kimberley district of Western Australia.

The nine species are separated from one another as follows:

The type form of *S. diversus* is a strongly bright pinkish coloured snake with a slight purplish tinge, this being the dorsal or visible colouration. Anterior part of the snout is a light whitish brown, becoming light brown at about the line between the eyes, rapidly turning the same pink as the dorsum at this general area. There is no well-defined demarcation of colour change and there is only a very faint light creamish etching to the scales of the snout region. Belly is a lighter pinkish white, the colour change poorly defined on the lower flank. Commencing anterior to the tail, the tail region develops a very slight and barely noticeable brownish tinge. The black eye spot is slightly below centre of the ocular scale.

S. farkinelle sp. nov. is a dull pinkish colour on top. Extending from a whitish snout tip, the front, middle and back of the upper surfaces of the head are dark brown with well-defined thick cream etchings to each scale, this extending to the back of the head and well behind the eyes, either as far or slightly further than the distance from snout to centre of the frontal.

The venter is white and well demarcated on the lower flank with a jagged edge, being caused by the infusion of white scales over the dark along the position of the lower lateral line. Only anteriorly is this demarcation line not well defined. Commencing slightly anterior to the tail there is a noticeable but slight brownish tinge. The black eye spot is slightly below centre and slightly posterior to centre of the ocular scale. Length is 55-70 times the body diameter.

S. ivebeenshaton sp. nov. is a purplish coloured snake on top. The scales of the venter are ivory white with small purple patches at the anterior part of each. The demarcation line between dark upper and light lower body on the lower flank is straight edged, the colour change cutting across the edges of the scales rather than being of the form a scale is either all dark or all light to create a jagged edge. This demarcation line is well-defined for the entire length of the snake, commencing at the back of the head.

The end of the tail on top is the same colour as the rest of the dorsum. The snout is usually the same colour as the dorsum, or sometimes the most anterior

scales have a brownish tinge. They have moderately well-defined white etching. Only at the very tip of the snout is there a white patch. Prefrontal is 2-3 times larger than the frontal. The black eye spot is situated at the centre of the ocular scale. Length is 40-50 times the body diameter.

S. shittythingie sp. nov. is a brilliant light whitish pink coloured snake on top. Tip of snout and end of tail is a light yellow colour. There is no white or whitish at the tip of the snout. Lower flanks are also pinkish and there is a fading to whitish pink in colour only well under the belly. Where there is a line demarcating dark upper and lighter lower body on the lower flank in other species, there is an ill-defined darker purple edge, with above and below it being the usual colour of the rest of the dorsum, with the lower area gradually fading under the belly. There is no obvious etching of the scales on the head. The black eye spot is situated slightly below the centre of the ocular scale. Length is 50-60 times the body diameter.

S. datsquirmy sp. nov. is a pinkish coloured snake on top with a strong yellowish tinge throughout the dorsum. tip of snout and end of tail are a fraction lighter than the rest of the body and lack obvious etchings between the scales. There is an indistinct and jagged edged border between dark upper and whitish lower body on the lower flank of consistent nature along the length of the snake. The jagged edge is caused by light and dark scales bordering one another. Length is 50-65 times the body diameter. The black eye spot is placed well back in the ocular scale and usually noticeably lower than centre..

S. antmuncha sp. nov. is a purplish-pink coloured snake on top. Head is dark brown rather than purple, with the very tip of snout becoming whitish in colour. There is a faint lighter etching of scales of the scales of the snout.

From before the vent the tail is brownish in colour on top and the tail tip is nearly black. The venter is a whitish version of the dorsum and there is no obvious demarcation between dark upper and lighter lower body on the lower flank or belly.

The rostral scale is particularly wide and squarish in shape, though narrowing slightly on the lower edges. The nasal is also expanded in size, impinging and reducing the sizes of the adjacent scales. Length is 55-70 times the body diameter. Black eye spot is relatively small and slightly anterior in the nasal, this caused by the expansion of the more anterior scales.

S. murraybrucei sp. nov. is a dark brown coloured snake on top. The anterior of the head is a more muddy brown colour, as opposed to the yellowish brown of the body. There is no obvious etching of scales on the head and the end of the tail has a slight greyish tinge. The demarcation between brownish upper body and creamish lower body on the lower flank is quite well-defined and the border is jagged edged, caused by the meeting of rows of dark and

light scales. Top edge of the rostral is pointed sharply and barely touches the prefrontal.

On the dorsum, each scale has a faint but darker blackish centre, meaning that when viewed as a whole the snake appears to have faint longitudinal stripes.

S. hawkeswoodi sp. nov. is similar in most respects to *S. antmuncha* sp. nov. as described above. It is separated from that species and all the others in this complex by being a dark brownish coloured snake on top, obvious yellow or beige etching of scales on the front of the head and a distinctive yellow venter, strongly demarcated from the upper body colour on the lower flanks. Head is of similar colour to the body but generally lighter, but there is no lightening at the tip of snout or anterior snout. Length is 45-55 times the body diameter. Prefrontal is nearly as large as the frontal. Rostral is wider at top than bottom. Nasal is not enlarged in size and eye spot is at centre of the ocular scale.

S. jarrodbinghami sp. nov. is an even brownish colour on top, with a neck that is purplish in colour and a tail that is dark brown, ending in a near black tip. Centres of scales on the dorsum and flanks are brown and outer edges are slightly darker in colour as an ill-defined etching. Eye spot is in the centre of the ocular scale, or slightly anterior. Nasal is not expanded in size. Rostral, is square-sided except at the top, where it forms a triangle barely touching the preocular. Head is more-or less the same colour as the body and the end of the tail a different shade of purplish brown to the rest of the body. There is no obvious etching of scales on the snout. Venter is creamish and the edge of light and dark on the flank is reasonably well-defined and jagged edged formed by the interplay of a row of dark shields on top versus light shields below. Length is 55-65 times the body diameter.

The nine preceding species are separated from all other Australian Blind Snakes by the following characteristics: A small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals. These 9 species are separated from the similar *S. ammodytes* (Montague, 1914) clade of eleven species as identified and named in this paper that as a group occurs in the Pilbara of Western Australia by the shape of the rostral, being straight-sided from above (except perhaps the most upper edges, or sometimes an inward turn, then straight again midway down the scale, versus narrower and concave-sided versus in the *S. ammodytes* (Montague, 1914) clade of species. The nine preceding species also have a nasal cleft that extends forward to approximately the rostral scale, versus a more vertical orientation in the *S.*

ammodytes clade of 11 species.

S. diversus is depicted in life online at:

<https://www.flickr.com/photos/ryanfrancis/14975362459/>
and

<https://www.flickr.com/photos/ryanfrancis/16007633642/>
and

<https://www.flickr.com/photos/ryanfrancis/14975437250/>
all from Mount Isa, Queensland, Australia, photographed by Ryan Francis, and
<https://www.flickr.com/photos/149281781@N05/51276095631/>

from Mount Isa, Queensland, Australia, photographed by Christina Zdenek.

S. farkinelle sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/58349528@N02/52297242557/>

from Broom, Western Australia, photographed by Jordan Mulder, and

<https://www.flickr.com/photos/julesfarquhar/52250606494/>

from Broom, Western Australia, photographed by taxonomic vandal and fake scientist Jules Farquhar.

S. ivebeenshaton sp. nov. is depicted in life in Storr, Smith and Johnstone (2002) page 101 at bottom left from Berrimah, NT and online at:

https://www.flickr.com/photos/zimny_anders/10895963323/

from the Gove area, Northern Territory, Australia photographed by Anders Zimny, and

<https://www.flickr.com/photos/58349528@N02/47969394316/>

from Arnhem Land, Northern Territory, Australia photographed by Jordan Mulder, and

https://www.flickr.com/photos/zimny_anders/53163503685/

from Weddell (Darwin) , Northern Territory, Australia photographed by Anders Zimny, and

<https://www.flickr.com/photos/171250498@N08/52400668964/>

from Wongalara, Northern Territory, Australia photographed by Wes Read.

S. shittythingie sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/jaricornelis/52462476259/>

from Tanami, Western Australia, photographed by Jari Cornelis, and

<https://www.flickr.com/photos/euprepiosaur/7237645530/>

from the southern Tanami Desert, Northern Territory, Australia, photographed by Stephen Zozaya.

S. datsquirmy sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/>

euprepiosaur/51654314525/

from Davenport Range, Northern Territory, Australia photographed by Stephen Zozaya, and https://www.flickr.com/photos/zimny_anders/50384861597/

from Cravens Peak, Queensland, Australia, photographed by Anders Zimny.

S. murraybrucei sp. nov. is depicted in life in Cogger 2014 on page 800 at top left, from Lake Argyle, Western Australia, photographed by Brad Maryan.

Distribution: *S. antmuncha* sp. nov. is only known from Supplejack Downs Station at the northern part of the Tanami region in the Northern Territory.

Etymology: It was in February 1983 when I was describing the ecology of this species and other Blind Snakes to a group of Warlpiri Aboriginals from the central west Northern Territory, that one of them said "ant muncha", giving this species its etymology.

SLOPPYTYPHLOPS MURRAYBRUCEI SP. NOV.

LSIDurn:lsid:zoobank.org:act:D2AFD911-3EF3-485B-9795-DA0D99E964DC

Holotype: A preserved adult male specimen at the Western Australian Museum Herpetology Collection (WAM), Perth, Western Australia, Australia, specimen number R151035 collected from under a rock at Lake Argyle, Western Australia, Australia, Latitude -16.216667 S., Longitude 128.9 E.

This government-owned facility allows access to its holdings.

Paratypes: Three preserved specimens at the Western Australian Museum Herpetology Collection (WAM), Perth, Western Australia, Australia, being specimen number R42721

collected 10 miles south of the Main Ord Dam site at Lake Argyle, Western Australia, Australia, Latitude -16.266667 S., Longitude 128.733333 E., specimen number R61351 collected from 11 miles south of the Main Ord Dam site at Lake Argyle, Western Australia, Australia, Latitude -16.216667 S., Longitude 128.7 E., and specimen number R61350 collected from 16 miles south of the Main Ord Dam site at Lake Argyle, Western Australia, Australia, Latitude -16.266667 S., Longitude 128.7 E.

Diagnosis: Until now, the putative taxon *Sloppytyphlops diversus* (Waite, 1894), with a type locality of west Queensland has been treated by all publishing authors as a single wide-ranging taxon, found in the tropical and near tropical section of Australia including far western Queensland, most of the Northern Territory and northwest Western Australia.

However, the published phylogenies of Marin *et al.* (2012 and 2013) have indicated nine separate species, each divergent from one another on average of about 2.5 MYA.

The eight other forms are formally named herein.

Nominate *S. diversus* is herein confined to north-west

Queensland, generally east of the Georgina River and not including the southern parts of the Gulf of Carpentaria.

S. farkinelle sp. nov. is a taxon found in the south-west Kimberley district of western Australia and apparently confined to this area.

S. ivebeenshaton sp. nov. is the taxon that occurs in most of the top end of the Northern Territory, including the west and south of the Gulf of Carpentaria.

S. shittyingie sp. nov. occurs in the deserts to the southeast of the Kimberley District in Western Australia, entering the far west of nearby Northern Territory.

S. datsquirmy sp. nov. is a taxon from the Tenant Creek and Simpson Desert region of the central east of the Northern territory, entering far west Queensland, west of the Georgina River basin.

S. antmuncha sp. nov. is a taxon only known from Supplejack Downs at the northern part of the Tanami region in the Northern Territory.

S. murraybrucei sp. nov. is a taxon from the upper Ord Drainage system, generally from around Lake Argyle and further south.

S. hawkeswoodi sp. nov. is from Carlton Hill Station, north-east Kimberley district, Western Australia, extending east into the lower (coastal) Victoria River district in the Northern Territory.

S. jarrodbinghami sp. nov. is a divergent form from around Kununurra in the east Kimberley district of Western Australia.

The nine species are separated from one another as follows:

The type form of *S. diversus* is a strongly bright pinkish coloured snake with a slight purplish tinge, this being the dorsal or visible colouration. Anterior part of the snout is a light whitish brown, becoming light brown at about the line between the eyes, rapidly turning the same pink as the dorsum at this general area. There is no well-defined demarcation of colour change and there is only a very faint light creamish etching to the scales of the snout region. Belly is a lighter pinkish white, the colour change poorly defined on the lower flank. Commencing anterior to the tail, the tail region develops a very slight and barely noticeable brownish tinge. The black eye spot is slightly below centre of the ocular scale.

S. farkinelle sp. nov. is a dull pinkish colour on top. Extending from a whitish snout tip, the front, middle and back of the upper surfaces of the head are dark brown with well-defined thick cream etchings to each scale, this extending to the back of the head and well behind the eyes, either as far or slightly further than the distance from snout to centre of the frontal.

The venter is white and well demarcated on the lower flank with a jagged edge, being caused by the infusion of white scales over the dark along the position of the lower lateral line. Only anteriorly is this demarcation line not well defined. Commencing

slightly anterior to the tail there is a noticeable but slight brownish tinge. The black eye spot is slightly below centre and slightly posterior to centre of the ocular scale. Length is 55-70 times the body diameter.

S. ivebeenshaton sp. nov. is a purplish coloured snake on top. The scales of the venter are ivory white with small purple patches at the anterior part of each. The demarcation line between dark upper and light lower body on the lower flank is straight edged, the colour change cutting across the edges of the scales rather than being of the form a scale is either all dark or all light to create a jagged edge. This demarcation line is well-defined for the entire length of the snake, commencing at the back of the head.

The end of the tail on top is the same colour as the rest of the dorsum. The snout is usually the same colour as the dorsum, or sometimes the most anterior scales have a brownish tinge. They have moderately well-defined white etching. Only at the very tip of the snout is there a white patch. Prefrontal is 2-3 times larger than the frontal. The black eye spot is situated at the centre of the ocular scale. Length is 40-50 times the body diameter.

S. shittyingie sp. nov. is a brilliant light whitish pink coloured snake on top. Tip of snout and end of tail is a light yellow colour. There is no white or whitish at the tip of the snout. Lower flanks are also pinkish and there is a fading to whitish pink in colour only well under the belly. Where there is a line demarcating dark upper and lighter lower body on the lower flank in other species, there is an ill-defined darker purple edge, with above and below it being the usual colour of the rest of the dorsum, with the lower area gradually fading under the belly. There is no obvious etching of the scales on the head. The black eye spot is situated slightly below the centre of the ocular scale. Length is 50-60 times the body diameter.

S. datsquirmy sp. nov. is a pinkish coloured snake on top with a strong yellowish tinge throughout the dorsum. tip of snout and end of tail are a fraction lighter than the rest of the body and lack obvious etchings between the scales. There is an indistinct and jagged edged border between dark upper and whitish lower body on the lower flank of consistent nature along the length of the snake. The jagged edge is caused by light and dark scales bordering one another. Length is 50-65 times the body diameter. The black eye spot is placed well back in the ocular scale and usually noticeably lower than centre..

S. antmuncha sp. nov. is a purplish-pink coloured snake on top. Head is dark brown rather than purple, with the very tip of snout becoming whitish in colour. There is a faint lighter etching of scales of the scales of the snout.

From before the vent the tail is brownish in colour on top and the tail tip is nearly black. The venter is a whitish version of the dorsum and there is no obvious demarcation between dark upper and lighter lower

body on the lower flank or belly.

The rostral scale is particularly wide and squarish in shape, though narrowing slightly on the lower edges. The nasal is also expanded in size, impinging and reducing the sizes of the adjacent scales. Length is 55-70 times the body diameter. Black eye spot is relatively small and slightly anterior in the nasal, this caused by the expansion of the more anterior scales.

S. murraybrucei sp. nov. is a dark brown coloured snake on top. The anterior of the head is a more muddy brown colour, as opposed to the yellowish brown of the body. There is no obvious etching of scales on the head and the end of the tail has a slight greyish tinge. The demarcation between brownish upper body and creamish lower body on the lower flank is quite well-defined and the border is jagged edged, caused by the meeting of rows of dark and light scales. Top edge of the rostral is pointed sharply and barely touches the prefrontal.

On the dorsum, each scale has a faint but darker blackish centre, meaning that when viewed as a whole the snake appears to have faint longitudinal stripes.

S. hawkeswoodi sp. nov. is similar in most respects to *S. antmuncha sp. nov.* as described above. It is separated from that species and all the others in this complex by being a dark brownish coloured snake on top, obvious yellow or beige etching of scales on the front of the head and a distinctive yellow venter, strongly demarcated from the upper body colour on the lower flanks. Head is of similar colour to the body but generally lighter, but there is no lightening at the tip of snout or anterior snout. Length is 45-55 times the body diameter. Prefrontal is nearly as large as the frontal. Rostral is wider at top than bottom. Nasal is not enlarged in size and eye spot is at centre of the ocular scale.

S. jarrodbinghami sp. nov. is an even brownish colour on top, with a neck that is purplish in colour and a tail that is dark brown, ending in a near black tip. Centres of scales on the dorsum and flanks are brown and outer edges are slightly darker in colour as an ill-defined etching. Eye spot is in the centre of the ocular scale, or slightly anterior. Nasal is not expanded in size. Rostral, is square-sided except at the top, where it forms a triangle barely touching the preocular. Head is more-or less the same colour as the body and the end of the tail a different shade of purplish brown to the rest of the body. There is no obvious etching of scales on the snout. Venter is creamish and the edge of light and dark on the flank is reasonably well-defined and jagged edged formed by the interplay of a row of dark shields on top versus light shields below. Length is 55-65 times the body diameter.

The nine preceding species are separated from all other Australian Blind Snakes by the following characteristics: A small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The

snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals. These 9 species are separated from the similar *S. ammodytes* (Montague, 1914) clade of eleven species as identified and named in this paper that as a group occurs in the Pilbara of Western Australia by the shape of the rostral, being straight-sided from above (except perhaps the most upper edges, or sometimes an inward turn, then straight again midway down the scale, versus narrower and concave-sided versus in the *S. ammodytes* (Montague, 1914) clade of species.

The nine preceding species also have a nasal cleft that extends forward to approximately the rostral scale, versus a more vertical orientation in the *S. ammodytes* clade of 11 species.

S. diversus is depicted in life online at:

<https://www.flickr.com/photos/ryanfrancis/14975362459/>

and

<https://www.flickr.com/photos/ryanfrancis/16007633642/>

and

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all from Mount Isa, Queensland, Australia, photographed by Ryan Francis, and

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S. farkinelle sp. nov. is depicted in life online at:

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from Broom, Western Australia, photographed by Jordan Mulder, and

<https://www.flickr.com/photos/julesfarquhar/52250606494/>

from Broom, Western Australia, photographed by taxonomic vandal and fake scientist Jules Farquhar.

S. ivebeenshaton sp. nov. is depicted in life in Storr, Smith and Johnstone (2002) page 101 at bottom left from Berrimah, NT and online at:

https://www.flickr.com/photos/zimny_anders/10895963323/

from the Gove area, Northern Territory, Australia photographed by Anders Zimny, and

<https://www.flickr.com/photos/58349528@N02/47969394316/>

from Arnhem Land, Northern Territory, Australia photographed by Jordan Mulder, and

https://www.flickr.com/photos/zimny_anders/53163503685/

from Weddell (Darwin), Northern Territory, Australia

photographed by Anders Zimny, and
<https://www.flickr.com/photos/171250498@N08/52400668964/>

from Wongalara, Northern Territory, Australia photographed by Wes Read.

S. shittythingie sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/jaricornelis/52462476259/>

from Tanami, Western Australia, photographed by Jari Cornelis, and

<https://www.flickr.com/photos/euprepiosaur/7237645530/>

from the southern Tanami Desert, Northern Territory, Australia, photographed by Stephen Zozaya.

S. datsquirmy sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/euprepiosaur/51654314525/>

from Davenport Range, Northern Territory, Australia photographed by Stephen Zozaya, and

https://www.flickr.com/photos/zimny_anders/50384861597/

from Cravens Peak, Queensland, Australia, photographed by Anders Zimny.

S. murraybrucei sp. nov. is depicted in life in Cogger 2014 on page 800 at top left, from Lake Argyle, Western Australia, photographed by Brad Maryan.

Distribution: *S. murraybrucei* sp. nov. occurs from the upper Ord Drainage system, generally from around Lake Argyle and extending in distribution further south.

Etymology: *S. murraybrucei* sp. nov. is named in honor of Murray D. Bruce, of Turramurra, New South Wales, Australia for a lifetime's contributions to ornithology and his active involvement in stopping unlawful acts of taxonomic vandalism in Ornithology. For further detail see Elliott *et al.* (2023).

SLOPPYTYPHLOPS HAWKESWOODI SP. NOV.

LSIDurn:lsid:zoobank.org:act:C83E9A25-233A-4490-95B8-A98E1FE1ADDD

Holotype: A preserved specimen at the Western Australian Museum Herpetology Collection (WAM), Perth, Western Australia, Australia, specimen number R126054 collected from about 5 km south of the Carlton Hill Homestead, Kimberley District, Western Australia, Australia, Latitude -15.538611 S., Longitude 128.523333 E.

This government-owned facility allows access to its holdings.

Diagnosis: Until now, the putative taxon *Sloppytyphlops diversus* (Waite, 1894), with a type locality of west Queensland has been treated by all publishing authors as a single wide-ranging taxon, found in the tropical and near tropical section of Australia including far western Queensland, most of the Northern Territory and northwest Western Australia.

However, the published phylogenies of Marin *et al.* (2012 and 2013) have indicated nine separate species, each divergent from one another on average of about 2.5 MYA.

The eight other forms are formally named herein.

Nominate *S. diversus* is herein confined to north-west Queensland, generally east of the Georgina River and not including the southern parts of the Gulf of Carpentaria.

S. farkinelle sp. nov. is a taxon found in the south-west Kimberley district of western Australia and apparently confined to this area.

S. ivebeenshaton sp. nov. is the taxon that occurs in most of the top end of the Northern Territory, including the west and south of the Gulf of Carpentaria.

S. shittyingie sp. nov. occurs in the deserts to the southeast of the Kimberley District in Western Australia, entering the far west of nearby Northern Territory.

S. datsquirmy sp. nov. is a taxon from the Tenant Creek and Simpson Desert region of the central east of the Northern territory, entering far west Queensland, west of the Georgina River basin.

S. antmuncha sp. nov. is a taxon only known from Supplejack Downs at the northern part of the Tanami region in the Northern Territory.

S. murraybrucei sp. nov. is a taxon from the upper Ord Drainage system, generally from around Lake Argyle and further south.

S. hawkeswoodi sp. nov. is from Carlton Hill Station, north-east Kimberley district, Western Australia, extending east into the lower (coastal) Victoria River district in the Northern Territory.

S. jarrodbinghami sp. nov. is a divergent form from around Kununurra in the east Kimberley district of Western Australia.

The nine species are separated from one another as follows:

The type form of *S. diversus* is a strongly bright pinkish coloured snake with a slight purplish tinge, this being the dorsal or visible colouration. Anterior part of the snout is a light whitish brown, becoming light brown at about the line between the eyes, rapidly turning the same pink as the dorsum at this general area. There is no well-defined demarcation of colour charge and there is only a very faint light creamish etching to the scales of the snout region. Belly is a lighter pinkish white, the colour change poorly defined on the lower flank. Commencing anterior to the tail, the tail region develops a very slight and barely noticeable brownish tinge. The black eye spot is slightly below centre of the ocular scale.

S. farkinelle sp. nov. is a dull pinkish colour on top. Extending from a whitish snout tip, the front, middle and back of the upper surfaces of the head are dark brown with well-defined thick cream etchings to each scale, this extending to the back of the head and well behind the eyes, either as far or slightly further than

the distance from snout to centre of the frontal.

The venter is white and well demarcated on the lower flank with a jagged edge, being caused by the infusion of white scales over the dark along the position of the lower lateral line. Only anteriorly is this demarcation line not well defined. Commencing slightly anterior to the tail there is a noticeable but slight brownish tinge. The black eye spot is slightly below centre and slightly posterior to centre of the ocular scale. Length is 55-70 times the body diameter.

S. ivebeenshaton sp. nov. is a purplish coloured snake on top. The scales of the venter are ivory white with small purple patches at the anterior part of each. The demarcation line between dark upper and light lower body on the lower flank is straight edged, the colour change cutting across the edges of the scales rather than being of the form a scale is either all dark or all light to create a jagged edge. This demarcation line is well-defined for the entire length of the snake, commencing at the back of the head.

The end of the tail on top is the same colour as the rest of the dorsum. The snout is usually the same colour as the dorsum, or sometimes the most anterior scales have a brownish tinge. They have moderately well-defined white etching. Only at the very tip of the snout is there a white patch. Prefrontal is 2-3 times larger than the frontal. The black eye spot is situated at the centre of the ocular scale. Length is 40-50 times the body diameter.

S. shittyingie sp. nov. is a brilliant light whitish pink coloured snake on top. Tip of snout and end of tail is a light yellow colour. There is no white or whitish at the tip of the snout. Lower flanks are also pinkish and there is a fading to whitish pink in colour only well under the belly. Where there is a line demarcating dark upper and lighter lower body on the lower flank in other species, there is an ill-defined darker purple edge, with above and below it being the usual colour of the rest of the dorsum, with the lower area gradually fading under the belly. There is no obvious etching of the scales on the head. The black eye spot is situated slightly below the centre of the ocular scale. Length is 50-60 times the body diameter.

S. datsquirmy sp. nov. is a pinkish coloured snake on top with a strong yellowish tinge throughout the dorsum. tip of snout and end of tail are a fraction lighter than the rest of the body and lack obvious etchings between the scales. There is an indistinct and jagged edged border between dark upper and whitish lower body on the lower flank of consistent nature along the length of the snake. The jagged edge is caused by light and dark scales bordering one another. Length is 50-65 times the body diameter. The black eye spot is placed well back in the ocular scale and usually noticeably lower than centre..

S. antmuncha sp. nov. is a purplish-pink coloured snake on top. Head is dark brown rather than purple, with the very tip of snout becoming whitish in colour.

There is a faint lighter etching of scales of the scales of the snout.

From before the vent the tail is brownish in colour on top and the tail tip is nearly black. The venter is a whitish version of the dorsum and there is no obvious demarcation between dark upper and lighter lower body on the lower flank or belly.

The rostral scale is particularly wide and squarish in shape, though narrowing slightly on the lower edges. The nasal is also expanded in size, impinging and reducing the sizes of the adjacent scales. Length is 55-70 times the body diameter. Black eye spot is relatively small and slightly anterior in the nasal, this caused by the expansion of the more anterior scales.

S. murraybrucei sp. nov. is a dark brown coloured snake on top. The anterior of the head is a more muddy brown colour, as opposed to the yellowish brown of the body. There is no obvious etching of scales on the head and the end of the tail has a slight greyish tinge. The demarcation between brownish upper body and creamish lower body on the lower flank is quite well-defined and the border is jagged edged, caused by the meeting of rows of dark and light scales. Top edge of the rostral is pointed sharply and barely touches the prefrontal.

On the dorsum, each scale has a faint but darker blackish centre, meaning that when viewed as a whole the snake appears to have faint longitudinal stripes.

S. hawkeswoodi sp. nov. is similar in most respects to *S. antmuncha* sp. nov. as described above. It is separated from that species and all the others in this complex by being a dark brownish coloured snake on top, obvious yellow or beige etching of scales on the front of the head and a distinctive yellow venter, strongly demarcated from the upper body colour on the lower flanks. Head is of similar colour to the body but generally lighter, but there is no lightening at the tip of snout or anterior snout. Length is 45-55 times the body diameter. Prefrontal is nearly as large as the frontal. Rostral is wider at top than bottom. Nasal is not enlarged in size and eye spot is at centre of the ocular scale.

S. jarrodbinghami sp. nov. is an even brownish colour on top, with a neck that is purplish in colour and a tail that is dark brown, ending in a near black tip. Centres of scales on the dorsum and flanks are brown and outer edges are slightly darker in colour as an ill-defined etching. Eye spot is in the centre of the ocular scale, or slightly anterior. Nasal is not expanded in size. Rostral, is square-sided except at the top, where it forms a triangle barely touching the preocular. Head is more-or less the same colour as the body and the end of the tail a different shade of purplish brown to the rest of the body. There is no obvious etching of scales on the snout. Venter is creamish and the edge of light and dark on the flank is reasonably well-defined and jagged edged formed by the interplay of a

row of dark shields on top versus light shields below. Length is 55-65 times the body diameter.

The nine preceding species are separated from all other Australian Blind Snakes by the following characteristics: A small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals. These 9 species are separated from the similar *S. ammodytes* (Montague, 1914) clade of eleven species as identified and named in this paper that as a group occurs in the Pilbara of Western Australia by the shape of the rostral, being straight-sided from above (except perhaps the most upper edges, or sometimes an inward turn, then straight again midway down the scale, versus narrower and concave-sided versus in the *S. ammodytes* (Montague, 1914) clade of species.

The nine preceding species also have a nasal cleft that extends forward to approximately the rostral scale, versus a more vertical orientation in the *S. ammodytes* clade of 11 species.

S. diversus is depicted in life online at:

<https://www.flickr.com/photos/ryanfrancis/14975362459/>
and

<https://www.flickr.com/photos/ryanfrancis/16007633642/>
and

<https://www.flickr.com/photos/ryanfrancis/14975437250/>
all from Mount Isa, Queensland, Australia, photographed by Ryan Francis, and
<https://www.flickr.com/photos/149281781@N05/51276095631/>

from Mount Isa, Queensland, Australia, photographed by Christina Zdenek.

S. farkinelle sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/58349528@N02/52297242557/>

from Broom, Western Australia, photographed by Jordan Mulder, and

<https://www.flickr.com/photos/julesfarquhar/52250606494/>

from Broom, Western Australia, photographed by taxonomic vandal and fake scientist Jules Farquhar.

S. ivebeenshaton sp. nov. is depicted in life in Storr, Smith and Johnstone (2002) page 101 at bottom left from Berrimah, NT and online at:

https://www.flickr.com/photos/zimny_anders/10895963323/

from the Gove area, Northern Territory, Australia photographed by Anders Zimny, and

<https://www.flickr.com/photos/58349528@N02/47969394316/>

from Arnhem Land, Northern Territory, Australia
photographed by Jordan Mulder, and
https://www.flickr.com/photos/zimny_anders/53163503685/

from Weddell (Darwin) , Northern Territory, Australia
photographed by Anders Zimny, and
<https://www.flickr.com/photos/171250498@N08/52400668964/>

from Wongalara, Northern Territory, Australia
photographed by Wes Read.

S. shittyingie sp. nov. is depicted in life online at:
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from Tanami, Western Australia, photographed by Jari Cornelis, and
<https://www.flickr.com/photos/euprepiosaur/7237645530/>

from the southern Tanami Desert, Northern Territory, Australia, photographed by Stephen Zozaya.

S. datsquirmy sp. nov. is depicted in life online at:
<https://www.flickr.com/photos/euprepiosaur/51654314525/>

from Davenport Range, Northern Territory, Australia
photographed by Stephen Zozaya, and
https://www.flickr.com/photos/zimny_anders/50384861597/

from Cravens Peak, Queensland, Australia,
photographed by Anders Zimny.

S. murraybrucei sp. nov. is depicted in life in Cogger 2014 on page 800 at top left, from Lake Argyle, Western Australia, photographed by Brad Maryan.

Distribution: *S. hawkeswoodei* sp. nov. is known from the Carlton Hill Station, north-east Kimberley district, Western Australia, extending east into the lower (coastal) Victoria River district in the Northern Territory.

Etymology: *S. hawkeswoodei* sp. nov. is named in honor of Dr. Trevor J. Hawkeswood of Northmead, New South Wales, Australia recognizing a lifetime's services to zoology and in particular entomology, including as editor of the peer reviewed scientific journal *Calodema*.

He has also published against taxonomic vandalism and been subjected to attacks on personal property and late-night telephone death threats as a result.

SLOPPTYPHLOPS JARRODBINGHAMI SP. NOV.
LSIDurn:lsid:zoobank.org:act:5E6E5FD5-6789-4A68-8E84-B334C60C01DD

Holotype: A preserved specimen at the Western Australian Museum Herpetology Collection (WAM), Perth, Western Australia, Australia, specimen number R119543 collected from the Mirima National Park, Western Australia, Australia, Latitude -15.783333 S., Longitude 128.783333 E.

This government-owned facility allows access to its holdings.

Paratypes: 1/ Two preserved specimens at the Western Australian Museum Herpetology Collection (WAM), Perth, Western Australia, Australia, being specimen numbers R119513 and R119542 both collected from the Mirima National Park, Western Australia, Australia, Latitude -15.783333 S., Longitude 128.783333 E., 2/ Two preserved specimens at the Western Australian Museum Herpetology Collection (WAM), Perth, Western Australia, Australia, being specimen numbers R73777 and R101371 both collected from Kununurra, Western Australia, Australia, Latitude -15.766667 S., Longitude 128.733333 E., and 3/ A preserved specimen at the South Australian Museum Herpetology Collection (SAM), Adelaide, South Australia, Australia, specimen number R51126 collected from Kununurra, Western Australia, Australia, Latitude -15.766667 S., Longitude 128.733333 E.

Diagnosis: Until now, the putative taxon *Sloppytyphlops diversus* (Waite, 1894), with a type locality of west Queensland has been treated by all publishing authors as a single wide-ranging taxon, found in the tropical and near tropical section of Australia including far western Queensland, most of the Northern Territory and northwest Western Australia.

However, the published phylogenies of Marin *et al.* (2012 and 2013) have indicated nine separate species, each divergent from one another on average of about 2.5 MYA.

The eight other forms are formally named herein.

Nominate *S. diversus* is herein confined to north-west Queensland, generally east of the Georgina River and not including the southern parts of the Gulf of Carpentaria.

S. farkinelle sp. nov. is a taxon found in the south-west Kimberley district of western Australia and apparently confined to this area.

S. ivebeenshaton sp. nov. is the taxon that occurs in most of the top end of the Northern Territory, including the west and south of the Gulf of Carpentaria.

S. shittyingie sp. nov. occurs in the deserts to the southeast of the Kimberley District in Western Australia, entering the far west of nearby Northern Territory.

S. datsquirmy sp. nov. is a taxon from the Tenant Creek and Simpson Desert region of the central east of the Northern territory, entering far west Queensland, west of the Georgina River basin.

S. antmuncha sp. nov. is a taxon only known from Supplejack Downs at the northern part of the Tanami region in the Northern Territory.

S. murraybrucei sp. nov. is a taxon from the upper Ord Drainage system, generally from around Lake Argyle and further south.

S. hawkeswoodi sp. nov. is from Carlton Hill Station, north-east Kimberley district, Western Australia, extending east into the lower (coastal) Victoria River

district in the Northern Territory.

S. jarrodbinghami sp. nov. is a divergent form from around Kununurra in the east Kimberley district of Western Australia.

The nine species are separated from one another as follows:

The type form of *S. diversus* is a strongly bright pinkish coloured snake with a slight purplish tinge, this being the dorsal or visible colouration. Anterior part of the snout is a light whitish brown, becoming light brown at about the line between the eyes, rapidly turning the same pink as the dorsum at this general area. There is no well-defined demarcation of colour change and there is only a very faint light creamish etching to the scales of the snout region. Belly is a lighter pinkish white, the colour change poorly defined on the lower flank. Commencing anterior to the tail, the tail region develops a very slight and barely noticeable brownish tinge. The black eye spot is slightly below centre of the ocular scale.

S. farkinelle sp. nov. is a dull pinkish colour on top. Extending from a whitish snout tip, the front, middle and back of the upper surfaces of the head are dark brown with well-defined thick cream etchings to each scale, this extending to the back of the head and well behind the eyes, either as far or slightly further than the distance from snout to centre of the frontal.

The venter is white and well demarcated on the lower flank with a jagged edge, being caused by the infusion of white scales over the dark along the position of the lower lateral line. Only anteriorly is this demarcation line not well defined. Commencing slightly anterior to the tail there is a noticeable but slight brownish tinge. The black eye spot is slightly below centre and slightly posterior to centre of the ocular scale. Length is 55-70 times the body diameter.

S. ivebeenshaton sp. nov. is a purplish coloured snake on top. The scales of the venter are ivory white with small purple patches at the anterior part of each. The demarcation line between dark upper and light lower body on the lower flank is straight edged, the colour change cutting across the edges of the scales rather than being of the form a scale is either all dark or all light to create a jagged edge. This demarcation line is well-defined for the entire length of the snake, commencing at the back of the head.

The end of the tail on top is the same colour as the rest of the dorsum. The snout is usually the same colour as the dorsum, or sometimes the most anterior scales have a brownish tinge. They have moderately well-defined white etching. Only at the very tip of the snout is there a white patch. Prefrontal is 2-3 times larger than the frontal. The black eye spot is situated at the centre of the ocular scale. Length is 40-50 times the body diameter.

S. shittyingie sp. nov. is a brilliant light whitish pink coloured snake on top. Tip of snout and end of tail is a light yellow colour. There is no white or whitish

at the tip of the snout. Lower flanks are also pinkish and there is a fading to whitish pink in colour only well under the belly. Where there is a line demarcating dark upper and lighter lower body on the lower flank in other species, there is an ill-defined darker purple edge, with above and below it being the usual colour of the rest of the dorsum, with the lower area gradually fading under the belly. There is no obvious etching of the scales on the head. The black eye spot is situated slightly below the centre of the ocular scale. Length is 50-60 times the body diameter.

S. datsquirmy sp. nov. is a pinkish coloured snake on top with a strong yellowish tinge throughout the dorsum. tip of snout and end of tail are a fraction lighter than the rest of the body and lack obvious etchings between the scales. There is an indistinct and jagged edged border between dark upper and whitish lower body on the lower flank of consistent nature along the length of the snake. The jagged edge is caused by light and dark scales bordering one another. Length is 50-65 times the body diameter. The black eye spot is placed well back in the ocular scale and usually noticeably lower than centre..

S. antmuncha sp. nov. is a purplish-pink coloured snake on top. Head is dark brown rather than purple, with the very tip of snout becoming whitish in colour. There is a faint lighter etching of scales of the scales of the snout.

From before the vent the tail is brownish in colour on top and the tail tip is nearly black. The venter is a whitish version of the dorsum and there is no obvious demarcation between dark upper and lighter lower body on the lower flank or belly.

The rostral scale is particularly wide and squarish in shape, though narrowing slightly on the lower edges. The nasal is also expanded in size, impinging and reducing the sizes of the adjacent scales. Length is 55-70 times the body diameter. Black eye spot is relatively small and slightly anterior in the nasal, this caused by the expansion of the more anterior scales.

S. murraybrucei sp. nov. is a dark brown coloured snake on top. The anterior of the head is a more muddy brown colour, as opposed to the yellowish brown of the body. There is no obvious etching of scales on the head and the end of the tail has a slight greyish tinge. The demarcation between brownish upper body and creamish lower body on the lower flank is quite well-defined and the border is jagged edged, caused by the meeting of rows of dark and light scales. Top edge of the rostral is pointed sharply and barely touches the prefrontal.

On the dorsum, each scale has a faint but darker blackish centre, meaning that when viewed as a whole the snake appears to have faint longitudinal stripes.

S. hawkeswoodi sp. nov. is similar in most respects to *S. antmuncha* sp. nov. as described above. It is separated from that species and all the others in this

complex by being a dark brownish coloured snake on top, obvious yellow or beige etching of scales on the front of the head and a distinctive yellow venter, strongly demarcated from the upper body colour on the lower flanks. Head is of similar colour to the body but generally lighter, but there is no lightening at the tip of snout or anterior snout. Length is 45-55 times the body diameter. Prefrontal is nearly as large as the frontal. Rostral is wider at top than bottom. Nasal is not enlarged in size and eye spot is at centre of the ocular scale.

S. jarrodbinghami sp. nov. is an even brownish colour on top, with a neck that is purplish in colour and a tail that is dark brown, ending in a near black tip. Centres of scales on the dorsum and flanks are brown and outer edges are slightly darker in colour as an ill-defined etching. Eye spot is in the centre of the ocular scale, or slightly anterior. Nasal is not expanded in size. Rostral, is square-sided except at the top, where it forms a triangle barely touching the preocular. Head is more-or less the same colour as the body and the end of the tail a different shade of purplish brown to the rest of the body. There is no obvious etching of scales on the snout. Venter is creamish and the edge of light and dark on the flank is reasonably well-defined and jagged edged formed by the interplay of a row of dark shields on top versus light shields below. Length is 55-65 times the body diameter.

The nine preceding species are separated from all other Australian Blind Snakes by the following characteristics: A small and moderately slender Blind Snake getting to a maximum of 35 cm in length. The snout is rounded to slightly angular in profile with 20 midbody scale rows. The nasal cleft proceeds from the preocular and passes a short distance upwards and forwards of the nostril on to the top of the head. 389-498 ventrals. These 9 species are separated from the similar *S. ammodytes* (Montague, 1914) clade of eleven species as identified and named in this paper that as a group occurs in the Pilbara of Western Australia by the shape of the rostral, being straight-sided from above (except perhaps the most upper edges, or sometimes an inward turn, then straight again midway down the scale, versus narrower and concave-sided versus in the *S. ammodytes* (Montague, 1914) clade of species. The nine preceding species also have a nasal cleft that extends forward to approximately the rostral scale, versus a more vertical orientation in the *S. ammodytes* clade of 11 species.

S. diversus is depicted in life online at:

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all from Mount Isa, Queensland, Australia, photographed by Ryan Francis, and
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S. ivebeenshaton sp. nov. is depicted in life in Storr, Smith and Johnstone (2002) page 101 at bottom left from Berrimah, NT and online at:

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<https://www.flickr.com/photos/58349528@N02/47969394316/>

from Arnhem Land, Northern Territory, Australia photographed by Jordan Mulder, and

https://www.flickr.com/photos/zimny_anders/53163503685/

from Weddell (Darwin) , Northern Territory, Australia photographed by Anders Zimny, and

<https://www.flickr.com/photos/171250498@N08/52400668964/>

from Wongalara, Northern Territory, Australia photographed by Wes Read.

S. shittythingie sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/jaricornelis/52462476259/>

from Tanami, Western Australia, photographed by Jari Cornelis, and

<https://www.flickr.com/photos/euprepiosaur/7237645530/>

from the southern Tanami Desert, Northern Territory, Australia, photographed by Stephen Zozaya.

S. datsquirmy sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/euprepiosaur/51654314525/>

from Davenport Range, Northern Territory, Australia photographed by Stephen Zozaya, and

https://www.flickr.com/photos/zimny_anders/50384861597/

from Cravens Peak, Queensland, Australia, photographed by Anders Zimny.

S. murraybrucei sp. nov. is depicted in life in Cogger 2014 on page 800 at top left, from Lake Argyle, Western Australia, photographed by Brad Maryan.

Distribution: *S. jarrodbinghami* sp. nov. is a divergent form only known from around Kununurra in the east Kimberley district of Western Australia.

Etymology: *S. jarrodbinghami* sp. nov. is named in honor of well-known Melbourne-based snake catcher, Jarrod Bingham, of Bacchus Marsh, Victoria, known as the “Snake Wrangler” for services to wildlife conservation.

JACKYHOSERTYPHLOPS YETANOTHERONE SP. NOV.

LSIDurn:lsid:zoobank.org:act:0D33DD0E-3F02-4208-A5E2-AB8AB8B8F975

Holotype: A preserved specimen at the Western Australian Museum Herpetology Collection (WAM), Perth, Western Australia, Australia, specimen number R136311 collected from Muggon station, Western Australia, Australia, Latitude -26.382778 S., Longitude 115.463889 E.

This government-owned facility allows access to its holdings.

Paratype: A preserved specimen at the Western Australian Museum Herpetology Collection (WAM), Perth, Western Australia, Australia, specimen number R136270 collected from Muggon station, Western Australia, Australia, Latitude -26.382778 S., Longitude 115.463889 E.

Diagnosis: *Jackyhosertyphlops yetanotherone* sp. nov. known only from the type locality has until now been treated as a divergent population of *Jackyhosertyphlops leptosoma* (Robb, 1972) a relatively range restricted taxon with a distribution extending from Shark Bay in the north to about Northampton, just south of Kalbarri in the South and extending inland to about Muggon Station. Specimens from further south, around Geraldton in a narrow zone extending about 110 km inland are of the associated taxon *Jackyhosertyphlops systemos* (Ellis and Doughty, 2017), which were hitherto treated as *J. leptosoma*, but easily separated by having 18 midbody scale rows, instead of 16 as seen in both *J. leptosoma* and *J. yetanotherone* sp. nov..

Another associated taxon, *J. obtusifrons* (Ellis and Doughty, 2017), which were also hitherto treated as *J. leptosoma*, are easily separated by having 18 midbody scale rows, instead of 16 as seen in both *J. leptosoma* and *J. yetanotherone* sp. nov..

Jackyhosertyphlops yetanotherone sp. nov. is separated from the main population of *J. leptosoma* of the west coastal strip and nearby elevated hinterland by a zone of low-lying clay pans, constituting unsuitable habitat, running north-south to the immediate west of Muggon station, Western Australia, which in turn is over 100 km in a straight line from the west coast of Australia being the centre of distribution for the three above-mentioned species.

Jackyhosertyphlops yetanotherone sp. nov. is separated from *J. leptosoma* by having a bold yellow head and neck, the yellow extending well behind the

eyes, and a greater distance than that from tip of snout to level with the eyes, in turn well demarcated from the pink dorsum behind, versus dull yellowish brown on the snout, fading to pink between the eyes, not extending much further back, or well demarcated from the pink further back.

J. yetanotherone sp. nov. is further separated from *J. leptosoma* by having the terminal portion of the body and tail a whitish colour, versus barely different in colour to the anterior body in *J. leptosoma*.

J. yetanotherone sp. nov. and *J. leptosoma* are separated from all other Australian Blind Snakes by the combination of 16 midbody scale rows, 583- 781 dorsal body scales, snout in profile is prominent with an obtusely angular horizontal edge, snout rounded and weakly trilobed in dorsal view, nasal cleft originating from the second supralabial, extending anteriorly to the nostril and terminating at the rostral scale, presence of a terminal tail spine and lack of any black colouration on head, body or tail (modified from Ellis *et al.*, 2017).

The termination point of nasal cleft at the rostral completely dividing the nasal scale and a relatively undepressed head separate both *J. yetanotherone* sp. nov. and *J. leptosoma* from all other Australian Blind Snake species with 16 midbody scale rows.

The phylogenies of Marin *et al.* (2012 and 2013) indicated a divergence of *J. yetanotherone* sp. nov. of about 4 MYA from nearest relative, being putative *J. leptosoma* thereby supporting the separation of each taxon at the species level.

Distribution: While only known from the type locality of Muggon station, Western Australia, Australia, Latitude -26.382778 S., Longitude 115.463889 E., it is reasonable to infer that *J. yetanotherone* sp. nov. occurs from the Badgeradda Range in the south to Mount Rebecca in the North, including associated elevated areas, being a fairly straight-line distribution. This gives a maximum likely range of 3,000 square km, not all of which is inhabitable for the Blind Snakes.

This makes it a severely range restricted taxon worthy of immediate conservation attention.

Etymology: When discussing this taxon with west Australian herpetologist Kaj Erik Bulliard in 2019, he exclaimed “Yet another one” in terms of it being another recently identified species.

This is therefore its etymology, being a noun in apposition.

JACKYHOSERTYPHLOPS SHITBOMB SP. NOV.

LSIDurn:lsid:zoobank.org:act:AC863CFD-A155-4653-AA11-25C5FB777C2E

Holotype: A preserved specimen at the Western Australian Museum Herpetology Collection (WAM), Perth, Western Australia, Australia, specimen number R127522 collected from 10 km south of Onslow, Western Australia, Australia, Latitude -21.733333 S., Longitude 115.083333 S.

This government-owned facility allows access to its holdings.

Paratypes: Seven preserved specimens at the Western Australian Museum Herpetology Collection (WAM), Perth, Western Australia, Australia, being specimen number R127521 collected from 10 km south of Onslow, Western Australia, Australia, Latitude -21.733333 S., Longitude 115.083333 S., specimen numbers R156259 (female), R112183, R112184 and R112683 (adult) all collected from the Onslow area, Western Australia, Australia, Latitude -21.741111 S., Longitude 115.113889 E. and specimen numbers R112684 and R112685 (juvenile) both collected from 10 km south southeast of Onslow, Western Australia, Australia, Latitude -21.72 S., Longitude 115.113889 E.

Diagnosis: Until recently, “*Typhlops grypus* Waite, 1918” with a holotype (NMV D12351, formerly R7102 at the National Museum of Victoria), type locality of Gregory Downs, North-west Queensland, Australia has been treated by most herpetologists as a pan-Australian species occupying most of the drier half of Australia, excluding the tropics and the southern deserts.

Parker (1931) formally described *Typhlops nigroterminatus* Parker, 1931 based on a holotype at the Museum of Natural History (UK), specimen number BMNH 1946.1.11.58, collected from Roebuck Bay, northwest Western Australia.

Robb (1972) formally named “*Ramphotyphlops leptosoma* Robb, 1972” based on a holotype from at the Western Australian Museum, WAM, R29623 collected from near Kalbarri in Western Australia.

More recently, and following the publications of Marin *et al.* (2012, 2013) “*Ramphotyphlops leptosoma* Robb, 1972” was divided three ways, and the associated taxa “*Anilius systemos* Ellis and Doughty, 2017” and “*Anilius obtusifrons* Ellis and Doughty, 2017” were formally described.

Hoser (2013a) formally named “*Libertadictus* (*Jackyhosertyphlops*) *cliffrosswellingtoni* Hoser, 2013” with a holotype being a specimen at the Australian Museum in Sydney, New South Wales, Australia, specimen number: R110535, from Scott’s Tank, Diamantina Lakes, Northwest of Windorah in Western Queensland, Latitude -23.97 S., Longitude 141.53 E. being a south-west Queensland taxon.

Hoser (2013a) also formally named “*Libertadictus* (*Jackyhosertyphlops*) *adelynhoserae*” with a holotype specimen at the Western Australian Museum (WAM), number: R22887 from Marble Bar, Western Australia, Latitude -21.18 S., Longitude 119.70 E. to account for Pilbara specimens of putative “*Typhlops grypus* Waite, 1918”.

The genus *Jackyhosertyphlops* Hoser, 2013 had as its type species, *Ramphotyphlops longissimus* Aplin, 1998, a west Australian taxon.

The various published phylogenies of Marin *et al.* (2012, 2013) and other more recent ones have

confirmed the validity of the all the preceding putative species. More importantly a number of other forms were also flagged in these studies.

In light of the published phylogenies of Marin *et al.* (2012, 2013), the populations of putative “*Typhlops grypus* Waite, 1918” as defined by most publishing herpetologists actually fit within two distinct genus groupings.

The eastern Australian populations (Queensland, New South Wales, southern Gulf of Carpentaria), including the type “*Typhlops grypus* Waite, 1918” does not fit into any established genus grouping *sensu* Hoser, 2013, so a new genus *Zzzzz gen. nov.* has been erected accommodate that cluster of species.

Zzzzz gen. nov. has a type species of “*Libertadictus* (*Jackyhosertyphlops*) *cliffrosswellingtoni* Hoser, 2013” and the genus includes several species.

Another is formally named in this paper as *Zzzzz zzzzz sp. nov.*, being a taxon from around Hughenden in central north Queensland.

Tiatragul *et al.* (2023a-b, 2024) in their phylogenies have established that the species within *Zzzzz gen. nov.* as defined in this paper diverged from nearest related species more than 20 MYA and that those are not of the west Australian *Jackyhosertyphlops* species.

Species in the genus *Zzzzz gen. nov.* are dealt with elsewhere in this paper.

All west and central Australian putative “*Typhlops grypus* Waite, 1918” including all forms formally described herein, excluding those explicitly mentioned above are placed within *Jackyhosertyphlops* Hoser, 2013, with a type species of “*Ophthalmidion longissimum* Duméril and Bibron, 1844” as outlined elsewhere in this paper. This is the only logical genus-level placement.

One of these West Australian taxa has been named in this paper as *Jackyhosertyphlops yetanotherone sp. nov.*

It is known only from the type locality of Muggon station, Western Australia, Australia, Latitude -26.382778 S., Longitude 115.463889 E. (WAM specimen number R136311).

It had until now been treated as a divergent population of *Jackyhosertyphlops leptosoma* (Robb, 1972), itself a relatively range restricted taxon with a distribution extending from Shark Bay in the north to about Northampton, just south of Kalbarri in the South and extending inland about 50 km (not including the population further east at Muggon Station transferred to the new species).

The other 12 previously unnamed species until now associated with putative *Jackyhosertyphlops grypus* of the west and central lineage, have always been treated as populations of that species.

However, based on morphological differences, allopatry across apparently unpassable habitat in the form of biogeographical barriers and deep genetic

divergences, all 12 identified species are formally named herein as new.

These are as follows:

Jackyhosertyphlops shitbomb sp. nov. is a taxon from the Onslow and Cape Range areas of the West Australian coast.

J. leavemalone sp. nov. occurs around the Waldburg Range in the Upper Gascoyne Shire, extending west to Mount Augustus, all in Western Australia.

J. tylertritti sp. nov. is a taxon from the elevated areas east and southeast of the upper Fortescue River drainage system, east of Newman in the Little Sandy Desert.

As a trio of species the three preceding species share a lot of traits with the so-called "*Ramphotyphlops leptosoma* Robb, 1972" group, to which they are also most closely related to. This separates them from all the other species and includes thinner more elongate body and higher average ventral counts (over 640, versus less than 640) as well as a lighter head and/or neck than body, versus much darker head and/or neck than body in all the other species in the complex.

The remaining species are all from the Pilbara region and arid areas west to central Australia.

They all have distributions in line with constraints caused by biogeographical barriers that affect other reptile species groups, including for example the Fortescue and Ashburton River basins, as well as inland claypan and flood zones. Whether the long-term species isolation is caused by habitat, microclimate, competing species, other factors, or combinations of them is not known.

These other species are as follows:

The type form of *Jackyhosertyphlops nigroterminatus* occurs from the southern edge of the Great Sandy Desert to Broome and Derby in the south-west Kimberley district of Western Australia.

Jackyhosertyphlops leverorum sp. nov. is confined to the Wittenoom and Tom Price area of the central Hamersley Ranges district.

J. mariolisi sp. nov. is a taxon from the Rhodes Ridge and Newman area in the Ophthalmia Range.

J. gambellae sp. nov. is a taxon from the west Hamersley district of Western Australia.

J. adelynhoserae Hoser, 2013 is herein confined to the region generally north of the Fortescue River and south of the De Grey River in the northern Pilbara of Western Australia.

J. ohno sp. nov. is a taxon from the hilly area between the Robe River in the north and the Cane River in the South, in the west Pilbara of western Australia.

J. toriswedoshae sp. nov. is a species from the Paterson Range area on the south-west edge of the Great Sandy Desert in Western Australia.

J. timbukthree sp. nov. is a species from the vicinity of Reeves Knoll in the border zone between the Gibson

and Great Sandy Deserts of north-east Western Australia.

J. gregswedoshi sp. nov. is a species from the elevated western parts of the Tanami Desert in association with the Gardiner Range on the Western Australia and Northern Territory border in far east Western Australia and adjacent Northern Territory.

J. haydnmcphiei sp. nov. is from the central Australian ranges, generally within 150 km of Alice Springs, Northern Territory.

J. lachlandundasi sp. nov. occurs south of the Amadeus basin in association with the elevated areas of the Petermann Ranges, in the far south-west of the Northern Territory, Australia.

Jackyhosertyphlops shitbomb sp. nov., *J. leavemalone* sp. nov. and *J. tylertritti* sp. nov. are all separated from the other ten West and central Australian species until now treated as putative *J. grypus* by having a thinner more elongate body and higher average ventral counts (over 640, versus less than 640) as well as a lighter head and/or neck than body, versus much darker head and/or neck than body in all the other eleven species in the complex.

Not included in the preceding statement was a lightening of the snout tip seen in many specimens, as opposed to the general colour of the top of the head from the eyes back, which is darker in the other eleven species.

Jackyhosertyphlops shitbomb sp. nov. has a light yellowish top of head roughly even to between the eyes and an end of tail that rapidly turns blackish, distally to the rest of the snake's pinkish upper body colour. There is not a well-defined boundary at either end.

J. leavemalone sp. nov. is a dark reddish brown colour dorsally in life. Posterior to the eyes at the back of the head and upper neck, there is a chocolate rinse extending about twice the distance as that from snout to eyes. Snout and tip of snout is light brownish, but the nasal cleft is creamish yellow at the anterior suture.

J. tylertritti sp. nov. is different to the two preceding species in that it is very light in colour in life, being almost a translucent pink in colour, making it easy to see internal organs and the like in the snake when viewed. The snout is also more squarish than angular as seen in the other two species.

All the preceding species are separated from all other Australian Blind Snakes by the following character combination:

A moderately large, very slender, blackish-tailed blind snake with snout beaked in profile, 18 midbody scale rows, nasal cleft usually proceeding from the second labial and 535 to 680 ventrals, 13-36 subcaudals, with males far higher than females.

The preceding species are all also characterized as follows:

Rostral (from above) is much longer than wide, about

three-quarters as wide as the head and extending back to the level of the eyes or nearly so. Nasals are usually narrowly separated behind rostral. Frontal is smaller than the prefrontal. Snout angular from above, weakly or strongly beaked in profile. Nostrils inferior, very slightly or not swollen and much nearer to rostral than the preocular. Nasal cleft proceeds from the second labial most of the time and usually proceeds for varying distances obliquely upwards and forwards towards the rostral reaching it about half the time or getting very close the other half.

Snout may be white or whitish tipped. Rest of head and neck may be blackish. Tail is blackish towards the tip. Venter is usually white or greyish white in colour.

Jackyhosertyphlops shitbomb sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/114906241>
from Northwest Cape, Western Australia,
photographed by Dario Di Pasquale.

J. leavemalone sp. nov. is depicted in life online at:
<https://www.flickr.com/photos/114192916@N07/54081707432/>

and

<https://www.flickr.com/photos/114192916@N07/54082584736/>

both from Mount Augustus, Western Australia,
photographed by Justin Wright.

The phylogenies of Martin *et al.* (2012 and 2013) showed Pliocene divergences of each of *Jackyhosertyphlops shitbomb* sp. nov., *J. leavemalone* sp. nov. and *J. tylertritti* sp. nov. from one another and more from other species. *Jackyhosertyphlops shitbomb* sp. nov., *J. leavemalone* sp. nov. diverged from each other about 2.7 MYA. *J. tylertritti* sp. nov. diverged nearly 5 MYA from the other two species.

Distribution: *Jackyhosertyphlops shitbomb* sp. nov. is a taxon from the Onslow and Cape Range areas of the West Australian coast.

Etymology: In 1981, I picked up a specimen off the road near Mindaroo, Western Australia and after it defecated on about five people who handled it at the time, the snake was labelled a "shit bomb" and hence the etymology.

JACKYHOSERTYPHLOPS LEAVEMEALONE SP. NOV.

LSIDurn:lsid:zoobank.org:act:FF845517-DB6E-43C4-AE34-5386FEA501DB

Holotype: A preserved specimen at the Western Australian Museum Herpetology Collection (WAM), Perth, Western Australia, Australia, specimen number R156164 collected from Waldburg station, Western Australia, Australia, Latitude -24.761111 S., Longitude 117.190278 E.

This government-owned facility allows access to its holdings.

Paratypes: Two preserved specimens at the

Western Australian Museum Herpetology Collection (WAM), Perth, Western Australia, Australia, being specimen numbers R156163 and R156163 (adult female) collected from Waldburg station, Western Australia, Australia, Latitude -24.761111 S., Longitude 117.190278 E.

Diagnosis: Until recently, "*Typhlops grypus* Waite, 1918" with a holotype (NMV D12351, formerly R7102 at the National Museum of Victoria), type locality of Gregory Downs, North-west Queensland, Australia has been treated by most herpetologists as a pan-Australian species occupying most of the drier half of Australia, excluding the tropics and the southern deserts.

Parker (1931) formally described *Typhlops nigroterminatus* Parker, 1931 based on a holotype at the Museum of Natural History (UK), specimen number BMNH 1946.1.11.58, collected from Roebuck Bay, northwest Western Australia.

Robb (1972) formally named "*Ramphotyphlops leptosoma* Robb, 1972" based on a holotype from at the Western Australian Museum, WAM, R29623 collected from near Kalbarri in Western Australia.

More recently, and following the publications of Marin *et al.* (2012, 2013) "*Ramphotyphlops leptosoma* Robb, 1972" was divided three ways, and the associated taxa "*Anilius systemos* Ellis and Doughty, 2017" and "*Anilius obtusifrons* Ellis and Doughty, 2017" were formally described.

Hoser (2013a) formally named "*Libertadictus* (*Jackyhosertyphlops*) *cliffrosswellingtoni* Hoser, 2013" with a holotype being a specimen at the Australian Museum in Sydney, New South Wales, Australia, specimen number: R110535, from Scott's Tank, Diamantina Lakes, Northwest of Windorah in Western Queensland, Latitude -23.97 S., Longitude 141.53 E. being a south-west Queensland taxon.

Hoser (2013a) also formally named "*Libertadictus* (*Jackyhosertyphlops*) *adelynhoserae*" with a holotype specimen at the Western Australian Museum (WAM), number: R22887 from Marble Bar, Western Australia, Latitude -21.18 S., Longitude 119.70 E. to account for Pilbara specimens of putative "*Typhlops grypus* Waite, 1918".

The genus *Jackyhosertyphlops* Hoser, 2013 had as its type species, *Ramphotyphlops longissimus* Aplin, 1998, a west Australian taxon.

The various published phylogenies of Marin *et al.* (2012, 2013) and other more recent ones have confirmed the validity of the all the preceding putative species. More importantly a number of other forms were also flagged in these studies.

In light of the published phylogenies of Marin *et al.* (2012, 2013), the populations of putative "*Typhlops grypus* Waite, 1918" as defined by most publishing herpetologists actually fit within two distinct genus groupings.

The eastern Australian populations (Queensland, New

South Wales, southern Gulf of Carpentaria), including the type "*Typhlops grypus* Waite, 1918" does not fit into any established genus grouping *sensu* Hoser, 2013, so a new genus *Zzzzz gen. nov.* has been erected accommodate that cluster of species.

Zzzzz gen. nov. has a type species of "*Libertadictus* (*Jackyhosertyphlops*) *cliffrosswellingtoni* Hoser, 2013" and the genus includes several species.

Another is formally named in this paper as *Zzzzz zzzzz sp. nov.*, being a taxon from around Hughenden in central north Queensland.

Tiatragul *et al.* (2023a-b, 2024) in their phylogenies have established that the species within *Zzzzz gen. nov.* as defined in this paper diverged from nearest related species more than 20 MYA and that those are not of the west Australian *Jackyhosertyphlops* species.

Species in the genus *Zzzzz gen. nov.* are dealt with elsewhere in this paper.

All west and central Australian putative "*Typhlops grypus* Waite, 1918" including all forms formally described herein, excluding those explicitly mentioned above are placed within *Jackyhosertyphlops* Hoser, 2013, with a type species of "*Ophthalmidion longissimum* Duméril and Bibron, 1844" as outlined elsewhere in this paper. This is the only logical genus-level placement.

One of these West Australian taxa has been named in this paper as *Jackyhosertyphlops yetanotherone sp. nov.*

It is known only from the type locality of Muggon station, Western Australia, Australia, Latitude -26.382778 S., Longitude 115.463889 E. (WAM specimen number R136311).

It had until now been treated as a divergent population of *Jackyhosertyphlops leptosoma* (Robb, 1972), itself a relatively range restricted taxon with a distribution extending from Shark Bay in the north to about Northampton, just south of Kalbarri in the South and extending inland about 50 km (not including the population further east at Muggon Station transferred to the new species).

The other 12 previously unnamed species until now associated with putative *Jackyhosertyphlops grypus* of the west and central lineage, have always been treated as populations of this species.

However, based on morphological differences, allopatry across apparently unpassable habitat in the form of biogeographical barriers and deep genetic divergences, all 12 identified species are formally named herein as new.

These are as follows:

Jackyhosertyphlops shitbomb sp. nov. is a taxon from the Onslow and Cape Range areas of the West Australian coast.

J. leavemalone sp. nov. occurs around the Waldburg Range in the Upper Gascoyne Shire, extending west to Mount Augustus, all in Western Australia.

J. tylertritti sp. nov. is a taxon from the elevated areas east and southeast of the upper Fortescue River drainage system, east of Newman in the Little Sandy Desert.

As a trio of species the three preceding species share a lot of traits with the so-called "*Ramphotyphlops leptosoma* Robb, 1972" group, to which they are also most closely related to. This separates them from all the other species and includes thinner more elongate body and higher average ventral counts (over 640, versus less than 640) as well as a lighter head and/or neck than body, versus much darker head and/or neck than body in all the other species in the complex.

The remaining species are all from the Pilbara region and arid areas west to central Australia.

They all have distributions in line with constraints caused by biogeographical barriers that affect other reptile species groups, including for example the Fortescue and Ashburton River basins, as well as inland claypan and flood zones. Whether the long-term species isolation is caused by habitat, microclimate, competing species, other factors, or combinations of them is not known.

These other species are as follows:

The type form of *Jackyhosertyphlops nigroterminatus* occurs from the southern edge of the Great Sandy Desert to Broome and Derby in the south-west Kimberley district of Western Australia.

Jackyhosertyphlops leverorum sp. nov. is confined to the Wittenoom and Tom Price area of the central Hamersley Ranges district.

J. mariolisi sp. nov. is a taxon from the Rhodes Ridge and Newman area in the Ophalmia Range.

J. gambellae sp. nov. is a taxon from the west Hamersley district of Western Australia.

J. adelynhoserae Hoser, 2013 is herein confined to the region generally north of the Fortescue River and south of the De Grey River in the northern Pilbara of Western Australia.

J. ohno sp. nov. is a taxon from the hilly area between the Robe River in the north and the Cane River in the South, in the west Pilbara of western Australia.

J. toriswedoshae sp. nov. is a species from the Paterson Range area on the south-west edge of the Great Sandy Desert in Western Australia.

J. timbukthree sp. nov. is a species from the vicinity of Reeves Knoll in the border zone between the Gibson and Great Sandy Deserts of north-east Western Australia.

J. gregswedoshi sp. nov. is a species from the elevated western parts of the Tanami Desert in association with the Gardiner Range on the Western Australia and Northern Territory border in far east Western Australia and adjacent Northern Territory.

J. haydnmcphiei sp. nov. is from the central Australian ranges, generally within 150 km of Alice Springs,

Northern Territory.

J. lachlandundasi sp. nov. occurs south of the Amadeus basin in association with the elevated areas of the Petermann Ranges, in the far south-west of the Northern Territory, Australia.

Jackyhosertyphlops shitbomb sp. nov., *J. leavemalone* sp. nov. and *J. tylertritti* sp. nov. are all separated from the other ten West and central Australian species until now treated as putative *J. grypus* by having a thinner more elongate body and higher average ventral counts (over 640, versus less than 640) as well as a lighter head and/or neck than body, versus much darker head and/or neck than body in all the other eleven species in the complex. Not included in the preceding statement was a lightening of the snout tip seen in many specimens, as opposed to the general colour of the top of the head from the eyes back, which is darker in the other eleven species.

Jackyhosertyphlops shitbomb sp. nov. has a light yellowish top of head roughly even to between the eyes and an end of tail that rapidly turns blackish, distally to the rest of the snake's pinkish upper body colour. There is not a well-defined boundary at either end.

J. leavemalone sp. nov. is a dark reddish brown colour dorsally in life. Posterior to the eyes at the back of the head and upper neck, there is a chocolate rinse extending about twice the distance as that from snout to eyes. Snout and tip of snout is light brownish, but the nasal cleft is creamish yellow at the anterior suture.

J. tylertritti sp. nov. is different to the two preceding species in that it is very light in colour in life, being almost a translucent pink in colour, making it easy to see internal organs and the like in the snake when viewed. The snout is also more squarish than angular as seen in the other two species.

All the preceding species are separated from all other Australian Blind Snakes by the following character combination:

A moderately large, very slender, blackish-tailed blind snake with snout beaked in profile, 18 midbody scale rows, nasal cleft usually proceeding from the second labial and 535 to 680 ventrals, 13-36 subcaudals, with males far higher than females.

The preceding species are all also characterized as follows:

Rostral (from above) is much longer than wide, about three-quarters as wide as the head and extending back to the level of the eyes or nearly so. Nasals are usually narrowly separated behind rostral. Frontal is smaller than the prefrontal. Snout angular from above, weakly or strongly beaked in profile. Nostrils inferior, very slightly or not swollen and much nearer to rostral than the preocular. Nasal cleft proceeds from the second labial most of the time and usually proceeds for varying distances obliquely upwards and forwards

towards the rostral reaching it about half the time or getting very close the other half.

Snout may be white or whitish tipped. Rest of head and neck may be blackish. Tail is blackish towards the tip. Venter is usually white or greyish white in colour.

Jackyhosertyphlops shitbomb sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/114906241> from Northwest Cape, Western Australia, photographed by Dario Di Pasquale.

J. leavemalone sp. nov. is depicted in life online at: <https://www.flickr.com/photos/114192916@N07/54081707432/>

and

<https://www.flickr.com/photos/114192916@N07/54082584736/>

both from Mount Augustus, Western Australia, photographed by Justin Wright.

The phylogenies of Martin *et al.* (2012 and 2013) showed Pliocene divergences of each of *Jackyhosertyphlops shitbomb* sp. nov., *J. leavemalone* sp. nov. and *J. tylertritti* sp. nov. from one another and more from other species. *Jackyhosertyphlops shitbomb* sp. nov., *J. leavemalone* sp. nov. diverged from each other about 2.7 MYA. *J. tylertritti* sp. nov. diverged nearly 5 MYA from the other two species.

Distribution: *J. leavemalone* sp. nov. occurs around the Waldburg Range in the Upper Gascoyne Shire, extending west to Mount Augustus, all in Western Australia.

Etymology: The etymology "leave me alone" is a reflection on the habit of this species defecating on people when they are handled. It is their way of saying "leave me alone".

JACKYHOSERTYPHLOPS TYLERTRITTI SP. NOV.
LSIDurn:lsid:zoobank.org:act:D8B172EF-B1D0-4F4C-B4F9-22C1815D05E4

Holotype: A preserved specimen at the Western Australian Museum Herpetology Collection (WAM), Perth, Western Australia, Australia, specimen number R102679 collected from the Little Sandy Desert, Western Australia, Australia, Latitude -24.075278 S., Longitude 120.360556 E.

This government-owned facility allows access to its holdings.

Paratype: A preserved specimen at the Western Australian Museum Herpetology Collection (WAM), Perth, Western Australia, Australia, specimen number R102717 collected from the Little Sandy Desert, Western Australia, Australia, Latitude -23.923333 S., Longitude 120.531389 E.

Diagnosis: Until recently, "*Typhlops grypus* Waite, 1918" with a holotype (NMV D12351, formerly R7102 at the National Museum of Victoria), type locality of Gregory Downs, North-west Queensland, Australia has been treated by most herpetologists as a pan-

Australian species occupying most of the drier half of Australia, excluding the tropics and the southern deserts.

Parker (1931) formally described *Typhlops nigroterminatus* Parker, 1931 based on a holotype at the Museum of Natural History (UK), specimen number BMNH 1946.1.11.58, collected from Roebuck Bay, northwest Western Australia.

Robb (1972) formally named "*Ramphotyphlops leptosoma* Robb, 1972" based on a holotype from at the Western Australian Museum, WAM, R29623 collected from near Kalbarri in Western Australia.

More recently, and following the publications of Marin *et al.* (2012, 2013) "*Ramphotyphlops leptosoma* Robb, 1972" was divided three ways, and the associated taxa "*Anilius systemos* Ellis and Doughty, 2017" and "*Anilius obtusifrons* Ellis and Doughty, 2017" were formally described.

Hoser (2013a) formally named "*Libertadictus* (*Jackyhosertyphlops*) *cliffrosswellingtoni* Hoser, 2013" with a holotype being a specimen at the Australian Museum in Sydney, New South Wales, Australia, specimen number: R110535, from Scott's Tank, Diamantina Lakes, Northwest of Windorah in Western Queensland, Latitude -23.97 S., Longitude 141.53 E. being a south-west Queensland taxon.

Hoser (2013a) also formally named "*Libertadictus* (*Jackyhosertyphlops*) *adelynhoserae*" with a holotype specimen at the Western Australian Museum (WAM), number: R22887 from Marble Bar, Western Australia, Latitude -21.18 S., Longitude 119.70 E. to account for Pilbara specimens of putative "*Typhlops grypus* Waite, 1918".

The genus *Jackyhosertyphlops* Hoser, 2013 had as its type species, *Ramphotyphlops longissimus* Aplin, 1998, a west Australian taxon.

The various published phylogenies of Marin *et al.* (2012, 2013) and other more recent ones have confirmed the validity of the all the preceding putative species. More importantly a number of other forms were also flagged in these studies.

In light of the published phylogenies of Marin *et al.* (2012, 2013), the populations of putative "*Typhlops grypus* Waite, 1918" as defined by most publishing herpetologists actually fit within two distinct genus groupings.

The eastern Australian populations (Queensland, New South Wales, southern Gulf of Carpentaria), including the type "*Typhlops grypus* Waite, 1918" does not fit into any established genus grouping *sensu* Hoser, 2013, so a new genus *Zzzzz gen. nov.* has been erected accommodate that cluster of species.

Zzzzz gen. nov. has a type species of "*Libertadictus* (*Jackyhosertyphlops*) *cliffrosswellingtoni* Hoser, 2013" and the genus includes several species.

Another is formally named in this paper as *Zzzzz zzzzz sp. nov.*, being a taxon from around Hughenden in central north Queensland.

Tiatragul *et al.* (2023a-b, 2024) in their phylogenies have established that the species within *Zzzzz gen. nov.* as defined in this paper diverged from nearest related species more than 20 MYA and that those are not of the west Australian *Jackyhosertyphlops* species.

Species in the genus *Zzzzz gen. nov.* are dealt with elsewhere in this paper.

All west and central Australian putative "*Typhlops grypus* Waite, 1918" including all forms formally described herein, excluding those explicitly mentioned above are placed within *Jackyhosertyphlops* Hoser, 2013, with a type species of "*Ophthalmidion longissimum* Duméril and Bibron, 1844" as outlined elsewhere in this paper.

This is the only logical genus-level placement.

One of these West Australian taxa has been named in this paper as *Jackyhosertyphlops yetanotherone sp. nov.*

It is known only from the type locality of Muggon station, Western Australia, Australia, Latitude -26.382778 S., Longitude 115.463889 E. (WAM specimen number R136311).

It had until now been treated as a divergent population of *Jackyhosertyphlops leptosoma* (Robb, 1972), itself a relatively range restricted taxon with a distribution extending from Shark Bay in the north to about Northampton, just south of Kalbarri in the South and extending inland about 50 km (not including the population further east at Muggon Station transferred to the new species).

The other 12 previously unnamed species until now associated with putative *Jackyhosertyphlops grypus* of the west and central lineage, have always been treated as populations of this species.

However, based on morphological differences, allopatry across apparently unpassable habitat in the form of biogeographical barriers and deep genetic divergences, all 12 identified species are formally named herein as new.

These are as follows:

Jackyhosertyphlops shitbomb sp. nov. is a taxon from the Onslow and Cape Range areas of the West Australian coast.

J. leavemalone sp. nov. occurs around the Waldburg Range in the Upper Gascoyne Shire, extending west to Mount Augustus, all in Western Australia.

J. tylertritti sp. nov. is a taxon from the elevated areas east and southeast of the upper Fortescue River drainage system, east of Newman in the Little Sandy Desert.

As a trio of species the three preceding species share a lot of traits with the so-called "*Ramphotyphlops leptosoma* Robb, 1972" group, to which they are also most closely related to. This separates them from all the other species and includes thinner more elongate body and higher average ventral counts (over 640, versus less than 640) as well as a lighter head and/or

neck than body colour, versus very much darker head and/or neck than body in all the other species in the complex.

The remaining species are all from the Pilbara region and arid areas west to central Australia.

They all have distributions in line with constraints caused by biogeographical barriers that affect other reptile species groups, including for example the Fortescue and Ashburton River basins, as well as inland claypan and flood zones. Whether the long-term species isolation is caused by habitat, microclimate, competing species, other factors, or combinations of them is not known.

These other species are as follows:

The type form of *Jackyhosertyphlops nigroterminatus* occurs from the southern edge of the Great Sandy Desert to Broome and Derby in the south-west Kimberley district of Western Australia.

Jackyhosertyphlops leverorum sp. nov. is confined to the Wittenoom and Tom Price area of the central Hamersley Ranges district.

J. mariolisi sp. nov. is a taxon from the Rhodes Ridge and Newman area in the Ophthalmia Range.

J. gambellae sp. nov. is a taxon from the west Hamersley district of Western Australia.

J. adelynhoserae Hoser, 2013 is herein confined to the region generally north of the Fortescue River and south of the De Grey River in the northern Pilbara of Western Australia.

J. ohno sp. nov. is a taxon from the hilly area between the Robe River in the north and the Cane River in the South, in the west Pilbara of western Australia.

J. toriswedoshae sp. nov. is a species from the Paterson Range area on the south-west edge of the Great Sandy Desert in Western Australia.

J. timbukthree sp. nov. is a species from the vicinity of Reeves Knoll in the border zone between the Gibson and Great Sandy Deserts of north-east Western Australia.

J. gregswedoshi sp. nov. is a species from the elevated western parts of the Tanami Desert in association with the Gardiner Range on the Western Australia and Northern Territory border in far east Western Australia and adjacent Northern Territory.

J. haydnmcphie sp. nov. is from the central Australian ranges, generally within 150 km of Alice Springs, Northern Territory.

J. lachlandundasi sp. nov. occurs south of the Amadeus basin in association with the elevated areas of the Petermann Ranges, in the far south-west of the Northern Territory, Australia.

Jackyhosertyphlops shitbomb sp. nov., *J. leavemalone* sp. nov. and *J. tylertritti* sp. nov. are all separated from the other ten West and central Australian species until now treated as putative *J. grypus* by having a thinner more elongate body and higher average ventral counts (over 640, versus less

than 640) as well as a lighter head and/or neck than body, versus much darker head and/or neck than body in all the other eleven species in the complex.

Not included in the preceding statement was a lightening of the snout tip seen in many specimens, as opposed to the general colour of the top of the head from the eyes back, which is darker in the other eleven species.

Jackyhosertyphlops shitbomb sp. nov. has a light yellowish top of head roughly even to between the eyes and an end of tail that rapidly turns blackish, distally to the rest of the snake's pinkish upper body colour. There is not a well-defined boundary at either end.

J. leavemalone sp. nov. is a dark reddish brown colour dorsally in life. Posterior to the eyes at the back of the head and upper neck, there is a chocolate rinse extending about twice the distance as that from snout to eyes. Snout and tip of snout is light brownish, but the nasal cleft is creamish yellow at the anterior suture.

J. tylertritti sp. nov. is different to the two preceding species in that it is very light in colour in life, being almost a translucent pink in colour, making it easy to see internal organs and the like in the snake when viewed. The snout is also more squarish than angular as seen in the other two species.

All the preceding species are separated from all other Australian Blind Snakes by the following character combination:

A moderately large, very slender, blackish-tailed blind snake with snout beaked in profile, 18 midbody scale rows, nasal cleft usually proceeding from the second labial and 535 to 680 ventrals, 13-36 subcaudals, with males far higher than females.

The preceding species are all also characterized as follows:

Rostral (from above) is much longer than wide, about three-quarters as wide as the head and extending back to the level of the eyes or nearly so. Nasals are usually narrowly separated behind rostral. Frontal is smaller than the prefrontal. Snout angular from above, weakly or strongly beaked in profile. Nostrils inferior, very slightly or not swollen and much nearer to rostral than the preocular. Nasal cleft proceeds from the second labial most of the time and usually proceeds for varying distances obliquely upwards and forwards towards the rostral reaching it about half the time or getting very close the other half.

Snout may be white or whitish tipped. Rest of head and neck may be blackish. Tail is blackish towards the tip. Venter is usually white or greyish white in colour.

Jackyhosertyphlops shitbomb sp. nov. is depicted in life online at:

<https://www.inaturalist.org/observations/114906241> from Northwest Cape, Western Australia, photographed by Dario Di Pasquale.

J. leavemalone sp. nov. is depicted in life online at:

<https://www.flickr.com/photos/114192916@N07/54081707432/>

and

<https://www.flickr.com/photos/114192916@N07/54082584736/>

both from Mount Augustus, Western Australia, photographed by Justin Wright.

The phylogenies of Martin *et al.* (2012 and 2013) showed Pliocene divergences of each of *Jackyhosertyphlops shitbomb* sp. nov., *J. leavemalone* sp. nov. and *J. tylertritti* sp. nov. from one another and more from other species. *Jackyhosertyphlops shitbomb* sp. nov., *J. leavemalone* sp. nov. diverged from each other about 2.7 MYA. *J. tylertritti* sp. nov. diverged nearly 5 MYA from the other two species.

Distribution: *J. tylertritti* sp. nov. is a taxon from the elevated areas east and southeast of the upper Fortescue River drainage system, east of Newman in the Little Sandy Desert.

Etymology: *J. tylertritti* sp. nov. is named in honor of Tyler Tritt of Forest Hill, Victoria in recognition of his services to herpetology over several years.

This has been done working with Snakebusters: Australia's best reptiles shows, being the only hands on reptile shows in Victoria, Australia that let people hold the animals.

JACKYHOSERTYPHLOPS LEVERORUM SP. NOV.
LSIDurn:lsid:zoobank.org:act:FD71C32B-7E41-44A9-97E1-28910677E8D0

Holotype: A preserved specimen at the Western Australian Museum Herpetology Collection (WAM), Perth, Western Australia, Australia, specimen number R114282 collected from Wittenoom, Western Australia, Australia, Latitude -22.23333 S., Longitude 118.316667 E.

This government-owned facility allows access to its holdings.

Paratypes: Two preserved specimens at the Western Australian Museum, Perth, Western Australia, Australia, being specimen number R13432 collected from Wittenoom Gorge, Western Australia, Australia, Latitude -22.28333 S., Longitude 118.316667 E. and specimen number

R111671 collected from Knox Gorge, Western Australia, Australia, Latitude -22.371667 S., Longitude 118.298056 E.

Diagnosis: Until now, eleven relevant species detailed in this description have been treated as populations of putative "*Typhlops grypus* Waite, 1918" with a holotype (NMV D12351, formerly R7102 at the National Museum of Victoria), type locality of Gregory Downs, North-west Queensland, Australia.

West and central Australia specimens of the putative species "*Typhlops grypus* Waite, 1918" are not closely related to the type form and associated species.

West and central Australia specimens remain in the

genus *Jackyhosertyphlops* Hoser, 2013 as explained in the description of *Jackyhosertyphlops shitbomb* sp. nov. published in this paper and relied upon as part of this description.

"*Typhlops grypus* Waite, 1918" and associated species are placed in the genus *Zzzzz* gen. nov. being an east Australian assemblage.

The three species *Jackyhosertyphlops shitbomb* sp. nov., *J. leavemalone* sp. nov. and *J. tylertritti* sp. nov. all occur on the south and south-east rim of the main Pilbara district in Western Australia in adjoining elevated areas such as the north Gascoyne and hills south-east of the Pilbara.

As a trio of species the three preceding species share a lot of traits with the so-called "*Ramphotyphlops leptosoma* Robb, 1972" group, to which they are also most closely related to. This separates them from all the other west and central Australian species formerly treated as *J. grypus*.

They are separated from other species previously treated as West and Central Australian *J. grypus* by their thinner more elongate body and higher average ventral counts (over 640, versus less than 640) as well as a lighter head and/or neck than body colour, versus very much darker head and/or neck than body colour in all the other species in the complex including the following ten.

Not included in the preceding statement was a lightening of the snout tip seen in many specimens, as opposed to the general colour of the top of the head from the eyes back, which is darker in the other eleven species.

The remaining and relevant eleven species are all from the Pilbara region and arid areas west to central Australia.

They all have distributions in line with constraints caused by biogeographical barriers that affect other reptile species groups, including for example the Fortescue and Ashburton River basins, as well as inland claypan and flood zones. Whether the long-term species isolation is caused by habitat, microclimate, competing species, other factors, or combinations of them is not known.

These relevant eleven species are as follows:

The type form of the species *Jackyhosertyphlops nigroterminatus* (Parker, 1931) occurs from the southern edge of the Great Sandy Desert, north of the De Grey River to Broome and Derby in the south-west Kimberley district of Western Australia.

Jackyhosertyphlops leverorum sp. nov. is confined to the Wittenoom and Tom Price area of the central Hamersley Ranges district.

J. mariolisi sp. nov. is a taxon from the Rhodes Ridge and Newman area in the Ophthalmia Range.

... Continued in AJH Issue 78 ...

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