



# HCN Proposed Reptiles Species List

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Contributors to this document include representatives from: Australian Herpetological Society, Central Coast Herpetological Society, Hawkesbury Herpetological Society, Illawarra Reptile Society, Macarthur Herpetological Society, North Coast Herpetological Group, Shoalhaven Reptile Club, Turtles R Us, DoLittle Farms, Flora & Fauna Management Services, Wildexpos, and other private reptile keepers.

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The HCN notes that the proposed classification of reptiles to Reptile Keeper Classes makes no changes to the existing listings other than to remove 11 species from Class 1 to a new Code-regulated category. This is in some ways unfortunate, as the present assignment of species and subspecies to categories has developed in a largely unregulated manner, and has led to some inconsistencies and errors.

We note the following issues.

**1. Nomenclatural changes and species divisions:**

**Turtles:**

*Macrochelodina rugosa* (2020) – this species is now *Macrochelodina oblonga* (the south-western Australian species formerly known as *oblonga* is now *Macrochelodina colliei*). (Reference: Thomson, S. 2000. The identification of the holotype of *Chelodina oblonga* (Testudines: Chelidae) with a discussion of taxonomic implications. Chelonian Conservation Biology 3(4):745-749).

*Elseya latisternum* (2029) – this species is now in the genus *Wollumbinia* (as *Wollumbinia latisternum*) although some professional herpetologists reject use of generic names coined by Richard Wells, and instead use the generic name *Myuchelys* (*Myuchelys latisternum*). In either case, the genus is not *Elseya*. Most field guides use the generic name *Wollumbinia*, and this is the name most keepers would be more familiar with. (References: Thomson, S. & Georges, A. 2009. *Myuchelys* gen. nov. — a new genus for *Elseya latisternum* and related forms of Australian freshwater turtle (Testudines: Pleurodira: Chelidae). Zootaxa 2053: 32-42; Swan, G., Sadlier, R. & Shea, G. 2017. A Field Guide to Reptiles of New South Wales. Third Edition. Reed New Holland, Chatswood. 328 pp.)

**Lizards, geckos:**

*Cyrtodactylus louisiadensis* (2049) – this species no longer occurs in Australia. Australian populations formerly under this name are now divided into five species: *Cyrtodactylus tuberculatus*, *C. mcdonaldi*, *C. hoskini*, *C. pronarus* and *C. adorus*. Of these, the most frequently available in the Australian pet trade is *Cyrtodactylus tuberculatus*. It is possible that there may be some *C. mcdonaldi* among them (the two species are very similar, and have contiguous distributions in the Wet Tropics). However, it is very unlikely that there are any *C. hoskini*, *C. pronarus* or *C. adorus* in the hobby in NSW, as these three species have very restricted distributions in remote areas. It would be simplest at a first step to change *C. louisiadensis* to *C. tuberculatus* (and possibly add *C. mcdonaldi* into the same R2 category). (Reference: Shea, G., Couper, P., Worthington Wilmer, J. & Amey, A. 2011. Revision of the genus *Cyrtodactylus* Gray, 1827 (Squamata: Gekkonidae) in Australia. Zootaxa 3146: 1–63).

*Diplodactylus byrnei* (2052) – this species is now in the genus *Lucasium* (as *Lucasium byrnei*). (Reference: Oliver, P.M., Hutchinson, M.N. & Cooper, S.J.B. 2007. Phylogenetic relationships in the lizard genus *Diplodactylus* Gray and resurrection of *Lucasium* Wermuth (Gekkota, Diplodactylidae). Australian Journal of Zoology 55(3):197-210).

*Diplodactylus conspicillatus* (2054) – this species has recently been divided into 8 species: *D. ameyi*, *D. barraganae*, *D. bilybara*, *D. conspicillatus*, *D. custos*, *D. hillii*, *D. laevis* and *D. platyurus*. The species occurring naturally in NSW is *D. ameyi*. It is likely that most of the individuals in the pet trade are either *D. conspicillatus* or *D. ameyi*, but without examining the animals themselves, it is not possible to exclude the possibility that the other six species are not also represented under the name *D. conspicillatus*. At a minimum, it would be preferable that *D. ameyi* is added to the list, in the same category as *D. conspicillatus* (R2) as both *D. ameyi* and *D. conspicillatus* are of no conservation significance, and have the same husbandry requirements. (References: Oliver, P.M., Couper, P.J. & Pepper, M. 2014. Independent transitions between monsoonal and arid biomes revealed by systematic revision of a complex of Australian geckos (*Diplodactylus*; Diplodactylidae). PLoS One 9 (12): e111895; Couper, P.J. & Oliver, P.M. 2016. A new species of gecko from arid inland regions of eastern Australia (*Diplodactylus*; Diplodactylidae). Zootaxa 4093 (4): 525–538).

*Diplodactylus steindachneri* (2071) – this species is now in the genus *Lucasium* (*Lucasium steindachneri*). (Reference: Oliver, P.M., Hutchinson, M.N. & Cooper, S.J.B. 2007. Phylogenetic relationships in the lizard genus *Diplodactylus* Gray and resurrection of *Lucasium* Wermuth (Gekkota, Diplodactylidae). Australian Journal of Zoology 55(3):197-210).

*Diplodactylus stenodactylus* (2072) – this species is now in the genus *Lucasium* (as *Lucasium stenodactylum*). (Reference: Oliver, P.M., Hutchinson, M.N. & Cooper, S.J.B. 2007. Phylogenetic relationships in the lizard genus *Diplodactylus* Gray and resurrection of *Lucasium* Wermuth (Gekkota, Diplodactylidae). Australian Journal of Zoology 55(3):197-210).

*Diplodactylus vittatus* (2077) -this species has recently been divided into multiple species. A second species is now present in NSW: *Diplodactylus furcosus*. This species is also widespread in South Australia, and specimens currently held as *D. vittatus* may include *D. furcosus*. There is no reason not to add this species, using the same category as *D. vittatus* – the conservation status of the two species and their captive requirements are the same. (Reference: Hutchinson, M.N., Doughty, P. & Oliver, P.M. 2009. Taxonomic revision of the stone geckos (Squamata: Diplodactylidae: *Diplodactylus*) of southern Australia. Zootaxa 2167: 25-46).

*Oedura lesueuri* (2118) – this species is now in the genus *Amalosia* (as *Amalosia lesueuri*). (Reference: Oliver, P.M., Bauer, A.M., Greenbaum, E., Jackman, T. & Hobbie, T. 2012. Molecular

phylogenetics of the arboreal Australian gecko genus *Oedura* Gray 1842 (Gekkota: Diplodactylidae): Another plesiomorphic grade?. Molecular Phylogenetics and Evolution 63(2): 255-264).

*Gehyra variegata* (2092) – This species has recently been split into two. True *Gehyra variegata* is now confined to the western half of the continent, and the eastern Australian species (occurring in eastern SA, Vic, NT, Qld and NSW) is now *Gehyra versicolor*. The two species are morphologically indistinguishable, and are identifiable only chromosomally. Most, if not all, captive individuals in NSW will be *G. versicolor*, which should either replace *G. variegata* on the list, or be added to the list with the same category as *G. variegata* (R1) – there are no differences in conservation status or husbandry. (Reference: Hutchinson, M.N.; Sistrom, M.J., Donnellan, S.C. & Hutchinson, R.G. 2014. Taxonomic revision of the Australian arid zone lizards *Gehyra variegata* and *G. montium* (Squamata, Gekkonidae) with description of three new species. Zootaxa 3814 (2): 221–241).

*Oedura marmorata* (2119) – this species has been recently split into multiple species. The species native to NSW is *Oedura cincta*, and the widespread species from western Australia is *Oedura fimbria*. *Oedura marmorata* is now restricted to northern Australia, and additional species have been split from it in the Gulf of Carpentaria (*O. bella*) and central Australia (*O. luritja*). Many of the captive individuals in NSW collections are likely to be *O. cincta* and *O. fimbria* – these species should be added to the list in the same category as *O. marmorata* (R1), as they have the same conservation status and husbandry requirements. (References: Oliver, P.M. & Doughty, P. 2016. Systematic revision of the marbled velvet geckos (*Oedura marmorata* species complex, Diplodactylidae) from the Australian arid and semi-arid zones Zootaxa 4088 (2): 151–176; Oliver P.M. & McDonald, P.J. 2016. Young relicts and old relicts: a novel palaeoendemic vertebrate from the Australian Central Uplands. Royal Society Open Science 3: 160018).

*Oedura robusta* (2123) -this species is now in the genus *Nebulifera* (as *Nebulifera robusta*). (Reference: Oliver, P.M., Bauer, A.M., Greenbaum, E., Jackman, T. & Hobbie, T. 2012. Molecular phylogenetics of the arboreal Australian gecko genus *Oedura* Gray 1842 (Gekkota: Diplodactylidae): Another plesiomorphic grade?. Molecular Phylogenetics and Evolution 63(2): 255-264).

*Rhynchoedura ornata* (2137) – this species has recently been split into six species, most of which are indistinguishable except on genetic differences. The species are geographically disjunct, but if the locality of origin is not known with certainty, it will not be possible to determine which species is represented in captivity. The species occurring naturally in NSW are *Rhynchoedura ormsbyi*, *R. angusta* and *R. eyrensis*, while *R. ornata* is only present in the western half of the continent. (Reference: Pepper, M., Doughty, P., Hutchinson, M.N. & Keogh, J.S. 2011. Ancient drainages divide

cryptic species in Australia's arid zone: Morphological and multi-gene evidence for four new species of Beaked Geckos (*Rhynchoedura*). *Molecular Phylogenetics and Evolution* 61 (3): 810-822).

*Saltuarius swaini* (2687) – this species has recently been split into two species. The more widespread species in NSW is now *Saltuarius moritzi*. It is likely that many of the specimens held in NSW under the name *S. swaini* are *S. moritzi*, and the latter species should be added to the list under the same category as *S. swaini* (R1, Companion) – the conservation status and husbandry are the same.

(Reference: Couper, P.J., Sadlier, R.A., Shea, G.M. & Worthington Wilmer, J. 2008. A reassessment of *Saltuarius swaini* (Lacertilia: Diplodactylidae) in Southeastern Queensland and New South Wales; two new taxa, phylogeny, biogeography and conservation. *Records of the Australian Museum* 60: 87–118).

*Underwoodisaurus sphyrurus* (2139) – this species is now in the genus *Uvidicolus* (as *Uvidicolus sphyrurus*). (Reference: Oliver, P.M. & Bauer, A.M. 2011. Systematics and evolution of the Australian knob-tail geckos (*Nephrurus*, Carphodactylidae, Gekkota): Pleiomorphic grades and biome shifts through the Miocene. *Molecular Phylogenetics and Evolution* 59(3): 664-674).

### Lizards: skinks

*Cryptoblepharus virgatus* (2331) – this has been split into three species. The species native to NSW is now *Cryptoblepharus pulcher*. The name *Cryptoblepharus virgatus* is now applied to a species from NE Qld that is unlikely to be in captivity in NSW. (Reference: Horner, P. 2007. Systematics of the snake-eyed skinks, *Cryptoblepharus* Wiegmann (Reptilia: Squamata: Scincidae) - an Australian based review. *The Beagle Supplement* 3: 21-198).

*Egernia frerei* (2411) – this species is now in the genus *Bellatorias* (as *Bellatorias frerei*). (Reference: Gardner, M.G., Hugall, A.F., Donnellan, S.C., Hutchinson, M.N., & Foster, R. 2008. Molecular systematics of social skinks: phylogeny and taxonomy of the *Egernia* group (Reptilia: Scincidae). *Zoological Journal of the Linnean Society* 154(4): 781-794).

*Egernia inornata* (2413) – this species is now in the genus *Liopholis* (as *Liopholis inornata*). (Reference: Gardner, M.G., Hugall, A.F., Donnellan, S.C., Hutchinson, M.N., & Foster, R. 2008. Molecular systematics of social skinks: phylogeny and taxonomy of the *Egernia* group (Reptilia: Scincidae). *Zoological Journal of the Linnean Society* 154(4): 781-794).

*Egernia major* (2417) – this species is now in the genus *Bellatorias* (as *Bellatorias major*). (Reference: Gardner, M.G., Hugall, A.F., Donnellan, S.C., Hutchinson, M.N., & Foster, R. 2008. Molecular systematics of social skinks: phylogeny and taxonomy of the *Egernia* group (Reptilia: Scincidae). *Zoological Journal of the Linnean Society* 154(4): 781-794).

*Egernia margaretae margaretae* (5006) – this is now in the genus *Liopholis*, and has been raised to a full species (as *Liopholis margaretae*). (References: Gardner, M.G., Hugall, A.F., Donnellan, S.C., Hutchinson, M.N., & Foster, R. 2008. Molecular systematics of social skinks: phylogeny and taxonomy of the *Egernia* group (Reptilia: Scincidae). *Zoological Journal of the Linnean Society* 154(4): 781-794; Chapple, D.G. & Keogh, J.S. 2004. Parallel adaptive radiations in arid and temperate Australia: molecular phylogeography and systematics of the *Egernia whitii* (Lacertilia: Scincidae) species group. *Biological Journal of the Linnean Society* 83: 157-173)

*Egernia margaretae personata* (5007) – this is now in the genus *Liopholis*, and has been raised to a full species (as *Liopholis personata*). (References: Gardner, M.G., Hugall, A.F., Donnellan, S.C., Hutchinson, M.N., & Foster, R. 2008. Molecular systematics of social skinks: phylogeny and taxonomy of the *Egernia* group (Reptilia: Scincidae). *Zoological Journal of the Linnean Society*, 154(4): 781-794; Chapple, D.G. & Keogh, J.S. 2004. Parallel adaptive radiations in arid and temperate Australia: molecular phylogeography and systematics of the *Egernia whitii* (Lacertilia: Scincidae) species group. *Biological Journal of the Linnean Society* 83: 157-173).

*Egernia modesta* (2419) – this species is now in the genus *Liopholis* (as *Liopholis modesta*). (Reference: Gardner, M.G., Hugall, A.F., Donnellan, S.C., Hutchinson, M.N., & Foster, R. 2008. Molecular systematics of social skinks: phylogeny and taxonomy of the *Egernia* group (Reptilia: Scincidae). *Zoological Journal of the Linnean Society* 154(4): 781-794).

*Egernia pulchra* (2422) – this species is now in the genus *Liopholis* (as *Liopholis pulchra*). (Reference: Gardner, M.G., Hugall, A.F., Donnellan, S.C., Hutchinson, M.N., & Foster, R. 2008. Molecular systematics of social skinks: phylogeny and taxonomy of the *Egernia* group (Reptilia: Scincidae). *Zoological Journal of the Linnean Society* 154(4): 781-794).

*Egernia striata* (2428) – this species is now in the genus *Liopholis* (as *Liopholis striata*). (Reference: Gardner, M.G., Hugall, A.F., Donnellan, S.C., Hutchinson, M.N., & Foster, R. 2008. Molecular systematics of social skinks: phylogeny and taxonomy of the *Egernia* group (Reptilia: Scincidae). *Zoological Journal of the Linnean Society* 154(4): 781-794).

*Egernia whitii* (2430) -this species is now in the genus *Liopholis* (as *Liopholis whitii*). (Reference: Gardner, M.G., Hugall, A.F., Donnellan, S.C., Hutchinson, M.N., & Foster, R. 2008. Molecular systematics of social skinks: phylogeny and taxonomy of the *Egernia* group (Reptilia: Scincidae). *Zoological Journal of the Linnean Society* 154(4): 781-794).

*Eremiascincus fasciolatus* (2437) - this species has recently been revised, with division into 4 species: *E. fasciolatus*, *E. intermedius*, *E. pallidus* and *E. phantasmus*. The species native to NSW is *E. phantasmus*. *Eremiascincus fasciolatus* is now the most range-restricted species of the four (limited

to a small area of eastern Queensland), and most specimens in captivity in NSW are likely to be one of the other three species, which should be added to the list, using the same category (R1) as *E. fasciolatus*. It is unlikely that true *E. fasciolatus* is held in captivity in NSW. (Reference: Mecke, S., Doughty, P., & Donnellan, S.C. 2013. Redescription of *Eremiascincus fasciolatus* (Günther, 1867) (Reptilia: Squamata: Scincidae) with clarification of its synonyms and the description of a new species. Zootaxa 3701(5): 473–517).

*Eulamprus martini* (2720) – this species is now in the genus *Concinnia* (as *Concinnia martini*). (Reference: Skinner, A., Hutchinson, M.N. & Lee, M.S.Y. 2013. Phylogeny and divergence times of Australian *Sphenomorphus* group skinks (Scincidae, Squamata). Molecular Phylogenetics and Evolution 69(3): 906–918).

*Eulamprus murrayi* (2552) – This species is now in the genus *Karma* (as *Karma murrayi*), although some professional herpetologists reject the use of generic names coined by Richard Wells, and instead use the generic name *Silvascincus* (as *Silvascincus murrayi*). In either case, the genus is not *Eulamprus*. Most field guides use the generic name *Karma*, and this is the name most keepers would be more familiar with. (References: Skinner, A., Hutchinson, M.N. & Lee, M.S.Y. 2013. Phylogeny and divergence times of Australian *Sphenomorphus* group skinks (Scincidae, Squamata). Molecular Phylogenetics and Evolution 69(3): 906–918; Swan, G., Sadlier, R. & Shea, G. 2017. A Field Guide to Reptiles of New South Wales. Third Edition. Reed New Holland, Chatswood. 328 pp.)

*Eulamprus tenuis* (2559) – This species is now in the genus *Concinnia* (as *Concinnia tenuis*). (Reference: Skinner, A., Hutchinson, M.N. & Lee, M.S.Y. 2013. Phylogeny and divergence times of Australian *Sphenomorphus* group skinks (Scincidae, Squamata). Molecular Phylogenetics and Evolution 69(3): 906–918).

*Eulamprus tryoni* (2871) – This species is now in the genus *Karma* (as *Karma tryoni*), although some professional herpetologists reject the use of generic names coined by Richard Wells, and instead use the generic name *Silvascincus* (as *Silvascincus tryoni*). In either case, the genus is not *Eulamprus*. Most field guides use the generic name *Karma*, and this is the name most keepers would be more familiar with. (References: Skinner, A., Hutchinson, M.N. & Lee, M.S.Y. 2013. Phylogeny and divergence times of Australian *Sphenomorphus* group skinks (Scincidae, Squamata). Molecular Phylogenetics and Evolution 69(3): 906–918; Swan, G., Sadlier, R. & Shea, G. 2017. A Field Guide to Reptiles of New South Wales. Third Edition. Reed New Holland, Chatswood. 328 pp.)

### **Lizards: dragons:**

*Ctenophorus caudicinctus* (2178) – this species was recently revised, and most of the former subspecies were raised to species status. Populations in the northern NT and Qld are now

*Ctenophorus slateri*, while the name *C. caudicinctus* is now restricted to a species in the Pilbara of Western Australia. It is likely that at least some, if not all, individuals of this species in the pet trade are *Ctenophorus slateri*, and this species should be added to the list in the same category as *C. caudicinctus* (R2) – the conservation status and husbandry are the same for the two species. (Reference: Melville, J., Haines, M.L., Hale, J., Chapple, S. & Ritchie, E.G. 2016. Concordance in phylogeography and ecological niche modelling identify dispersal corridors for reptiles in arid Australia. Journal of Biogeography 43(9): 1844-1855).

*Hypsilurus boydii* (2243) – The Australian species previously referred to *Hypsilurus* (and before that *Gonocephalus*) are now in the genus *Lophosaurus* (as *Lophosaurus boydii* in this case). (Reference: Denzer, W. & Manthey, U. 2016. Remarks on the taxonomy and nomenclature of the genus *Hypsilurus* Peters, 1867 (Reptilia, Agamidae, Amphibolurinae). Zoosystematics and Evolution 92(1): 103–110).

*Hypsilurus spinipes* (2245) – The Australian species previously referred to *Hypsilurus* (and before that *Gonocephalus*) are now in the genus *Lophosaurus* (as *Lophosaurus spinipes* in this case). (Reference: Denzer, W. & Manthey, U. 2016. Remarks on the taxonomy and nomenclature of the genus *Hypsilurus* Peters, 1867 (Reptilia, Agamidae, Amphibolurinae). Zoosystematics and Evolution 92(1): 103–110).

*Lophognathus longirostris* (2247) – this species is now in the genus *Gowidon* (as *Gowidon longirostris*). (Reference: Melville, J., Ritchie, E.G., Chapple, S.N.G., Glor, R.E. & Schulte, J.A. 2011. Evolutionary origins and diversification of dragon lizards in Australia's tropical savannas. Molecular Phylogenetics and Evolution 58: 257–270).

*Lophognathus temporalis* (2248) – this species does not belong in the genus *Lophognathus*, and most recent field guides place it in the genus *Gowidon* (as *Gowidon temporalis*), although it may not belong in this genus either – a new generic name is likely warranted. The Australian Society of Herpetologists maintains the species in *Lophognathus* until a new generic name is provided. (References: Melville, J., Ritchie, E.G., Chapple, S.N.G., Glor, R.E. & Schulte, J.A. 2011. Evolutionary origins and diversification of dragon lizards in Australia's tropical savannas. Molecular Phylogenetics and Evolution 58: 257–270; Wilson, S. & Swan, G. 2017. A Complete Guide to Reptiles of Australia. 5th edition. New Holland, Chatswood, 647 pp; Australian Society of Herpetologists Position Statement 3: <http://www.australiansocietyofherpetologists.org/position-statements/>).

*Physignathus lesueurii* (2252) and both of its subspecies, *Physignathus lesueurii lesueurii* (5075) and *Physignathus lesueurii howitti* (5076) are now in the genus *Intellagama* (as *Intellagama lesueurii lesueurii* and *Intellagama lesueurii howitti*). (Reference: Amey, A.P., Couper, P.J. & Shea, G.M. 2012.

*Intellagama lesueurii* (Gray, 1831), the correct binomial combination for the Australian Eastern Water Dragon (Sauria, Agamidae). Zootaxa 3390: 65–67).

*Pogona minima* (2191), *Pogona minor* (2192) and *Pogona mitchelli* (2193) are now regarded as subspecies of a single species, *Pogona minor* (as *Pogona minor minor*, *Pogona minor minima* and *Pogona mitchelli*). (References: Storr, G.M. 1982. Revision of the bearded dragons (Lacertilia: Agamidae) of Western Australia with notes on the dismemberment of the genus *Amphibolurus*. Records of the Western Australian Museum 19(2): 199–214; Witten, G.J. 1994. Taxonomy of *Pogona* (Reptilia: Lacertilia: Agamidae). Memoirs of the Queensland Museum 37: 329–343; Australian Society of Herpetologists Position Statement 3: <http://www.australiансocietyofherpetologists.org/position-statements/>).

*Tympanocryptis cephalus* – this species has recently been revised, and divided into five species in Western Australia. Eastern Australian populations that were formerly identified as *T. cephalus* have already been demonstrated to represent *T. lineata* (South Australia) and an unnamed species related to *T. intima* (Queensland). Only small numbers of this species are held in captivity, but without examination of the captive individuals or knowledge of the exact locality of the source populations, it is not possible to determine which species are involved. (References: Doughty, P., Kealley, L., Shoo, L.P. & Melville, J. 2015. Revision of the Western Australian pebble-mimic dragon species-group (*Tympanocryptis cephalus*: Reptilia: Agamidae) Zootaxa 4039(1): 85–117; Shoo, L.P. Rose, R., Doughty, P., Austin, J.J. & Melville, J. 2008. Diversification patterns of pebble-mimic dragons are consistent with historical disruption of important habitat corridors in arid Australia. Molecular Phylogenetics and Evolution, 48(2): 528–542).

#### **Lizards: goannas:**

*Varanus indicus* (2272) – Australian populations previously referred to as *Varanus indicus* have more recently been shown to include a second species, *V. doreanus*. Both species also occur outside Australia. Until the captive individuals are examined, it will remain uncertain as to whether *V. doreanus* is present in the pet population. However, this possibility should not be discounted, as *V. doreanus* is present in Cape York, the Australian source population for several other high profile species in the pet trade, such as *Morelia viridis*. (References: Weijola, V., Donnellan, S.C. & Lindqvist, C. 2016. A new blue-tailed monitor lizard (Reptilia, Squamata, *Varanus*) of the *Varanus indicus* group from Mussau Island, Papua New Guinea. ZooKeys 568: 129–154; Natusch, D.J.D. & Lyons, J.A. 2017. Notes on the natural history of Blue-tailed Monitors (*Varanus doreanus*) in Australia. Biawak 11(1), 8–14).

### **Snakes: pythons:**

*Leiopython albertisii* (2617) – Following taxonomic revision of the white-lipped pythons of the genus *Leiopython*, the species native to Australia (and restricted within Australia to some of the Torres Strait islands) is now *Leiopython meridionalis*. There should be no *L. albertisii* in Australia in private hands, as the species is not native to Australia any more. (References: Schleip, W.D. 2008. Revision of the genus *Leiopython* Hubrecht, 1879 (Serpentes: Pythonidae) with the re-description of taxa recently described by Hoser (2000) and the description of some new species. Journal of Herpetology 42: 645-647; Schleip, W.D. 2014. Two new species of *Leiopython* Hubrecht, 1879 (Serpentes: Pythonidae): non-compliance with the International Code of Zoological Nomenclature leads to unavailable names in zoological nomenclature. Journal of Herpetology 48: 272-275; Barker, D.G., Barker, T.M., Davis, M.A. & Schuett, G.W. 2015. A review of the systematics and taxonomy of Pythonidae: an ancient serpent lineage. Zoological Journal of the Linnean Society 15: 1-19).

*Liasis stimsoni* (2819) – This species is now in the genus *Antaresia*, as *Antaresia stimsoni* (as with the other species, *A. childreni* and *A. maculosa* – 2619, 2618). (Reference: Schleip, W.D. & O’Shea, M. 2010. Annotated checklist of the recent and extinct pythons (Serpentes, Pythonidae), with notes on nomenclature, taxonomy, and distribution. ZooKeys 66: 29-79).

*Morelia amethistina* (2618) – Australian populations of scrub pythons have been referred to the species *kinghorni*, and the scrub pythons have recently been referred to the genus *Simalia*, so that all Australian scrub pythons are now *Simalia kinghorni*. While not all recent field guides adopt both the generic and species changes, the combination *Simalia kinghorni* is accepted by the Australian Society of Herpetologists (draft python list, which will be ratified shortly). (References: Harvey, M.B., Barker, D.G., Ammerman, L.K. & Chippendale, P.T. 2000. Systematics of pythons of the *Morelia amethystina* complex (Serpentes: Boidae) with the description of three new species. Herpetological Monographs 14: Reynolds, R.G., Niemiller, M.L. & Revell, L.J. 2013. Toward a Tree-of-Life for the boas and pythons: multilocus species-level phylogeny with unprecedented taxon sampling. Molecular Phylogenetics and Evolution 71: 201-213; Barker, D.G., Barker, T.M., Davis, M.A. & Schuett, G.W. 2015. A review of the systematics and taxonomy of Pythonidae: an ancient serpent lineage. Zoological Journal of the Linnean Society 15: 1-19).

### **Snakes: elapids:**

*Pseudonaja nuchalis* (2698) – this species has been divided into three species, with true *P. nuchalis* restricted to tropical northern Australia, and only *P. aspidorhyncha* (common) and *P. mengdeni* (only a small number of records) present naturally in NSW. It is likely that most of the captive animals in NSW are *P. aspidorhyncha*, although it is possible that animals imported from SA and WA will be *P.*

*mengdeni*. Both should be added to the list, in the same category as *P. nuchalis*, as their conservation status and husbandry is the same. We also note that the common name for these three species is not “Mulga” – this is one of the names for *Pseudechis australis*. Instead, the three species were formerly referred to as Western Brown Snakes, and are now most commonly given the colloquial names Northern Brown Snake (*P. nuchalis*), Western Brown Snake (*P. mengdeni*) and Strap-snouted Brown Snake (*P. aspidorhyncha*). (Reference: Skinner, A. 2009. A multivariate morphometric analysis and systematic review of *Pseudonaja* (Serpentes, Elapidae, Hydrophiinae). Zoological Journal of the Linnean Society 155(1): 171-197).

*Suta flagellum* (2727) – this species is in the genus *Parasuta* (as *Parasuta flagellum*), along with *Parasuta dwyeri* and *P. spectabilis*, which have the correct generic assignment in the list. All were formerly in the genus *Suta*, and it is presumed that *S. flagellum* was overlooked when the other species were updated on a previous occasion.

## **2. List of Coded Species:**

The HCN is pleased to see the proposal to move 11 species of reptiles from Class R1 to Coded (regulated by adherence to a Code of Practice rather than requiring annual licensing returns). These 11 species cover the most widely kept species of reptiles in New South Wales, and include those able to be traded commercially through pet shops. Hence, the loss of a requirement of an unwarranted continuing monitoring of these species by OEH Licensing will enormously reduce staff workload, enabling them to concentrate on species of conservation concern. Nine of these 11 species (all except the two geckos) have been routinely bred in large numbers in NSW, and in other states, and there is abundant supply of captive-bred offspring to supply the current and likely future market. Further, most of these species are already widespread in their natural distribution in NSW, such that there is little or no risk of establishing new populations should there be escape or release of individuals from captivity, or do not naturally occur in NSW, such that any escape or release of individuals will be to a climate or environment that is unlikely to support establishment of feral populations.

Although we generally support the list of species proposed, we see some continuing inconsistency between the species proposed to be on Code and those remaining in Categories 1 and 2, and would like to see a small number of additional changes, involving addition of a small number of other taxa. These additions to the Code-regulated list will further reduce any complexity in workload for Licensing staff, by reducing issues with identification of captive animals.

a. *Antaresia stimsoni*. We propose the inclusion of *Antaresia stimsoni* (2819) to the Code list (currently R1, Companion). The Children's pythons of the genus *Antaresia* are all morphologically similar, and captive breeding for color morphs is reducing the distinction in coloration originally used in distinguishing the species, to the point where it is becoming less obvious what is *Antaresia stimsoni*, *Antaresia childreni* and *Antaresia maculosa* to the inexperienced person. Further, with the name *childreni* formerly applied to all three species (until they were separated in 1985), and the common name Children's Python still commonly applied to the genus rather than just the modern concept of the species *Antaresia childreni*, it is quite likely that there are some *Antaresia maculosa* and *Antaresia stimsoni* currently held under the name *A. childreni*. We see no reason on conservation grounds for *A. stimsoni* not to be treated the same way as the other two *Antaresia* species. The species is widespread across Australia, occurring in all mainland states except Victoria. Indeed, its geographic distribution is greater than the sum of the distribution of *A. childreni* and *A. maculosa*. While the species is nominally considered Vulnerable in NSW, this is simply due to the category being assigned at a time when the species was only known from a small area in the far north-west of the state, near Sturt National Park. Since then, the distribution is known to extend much further south, to the south of Broken Hill (Swan *et al.*, 2017. A Field Guide to Reptiles of New South Wales. Third Edition. Reed New Holland, Chatswood. 328 pp.), and there are recent unvouchered, though reputable, sightings, plus old records of the species, to the east of the Darling River, from Gundabooka National Park (records in Atlas of Living Australia), from Wuttagoona Station near Cobar (Shea, G.M. 2012. The life and herpetological collections of James Ramsay, with correction of the type localities of two rare snakes from New South Wales. Australian Zoologist: 36(2): 145-152) and from Mt Oxley (T. Hawkes, photo seen by G. Shea). Hence, the distribution of the species in NSW covers almost a quarter of the state, and is actually much greater, and the number of records is much greater, than for *A. maculosa*, which is not listed on the Threatened Species list in NSW, and is proposed to be Code-regulated. Listing *Antaresia maculosa*, but not *Antaresia stimsoni*, as Code-regulated, is not consistent with their NSW distributions or conservation status. *Antaresia stimsoni* was recently assessed by the IUCN, and assigned a Least Concern status (Doughty, P., Ellis, R., Melville, J., Oliver, P., Wilson, S. & Teale, R. 2017. *Antaresia stimsoni*.

The IUCN Red List of Threatened Species 2017: e.T13300683A13300693). This species is frequently bred in captivity, and there is no indication that NSW native populations are being illegally collected for commercial supply. Placing it on the Coded list will reduce compliance difficulties relating to identification of captive animals. We similarly request that hybrids between various combinations of *Antaresia* species (T152, T169) be placed on the Code-regulated list – there is no way of

unequivocally identifying such individuals by simple examination, without breeding records, and hence no reason to believe that treating them in a higher category will capture compliance.

b. *Emydura macquarii* (2034) – The full species is listed among the Coded species, yet six nominal subspecies (*Emydura macquarii krefftii* (2033), *Emydura macquarii dharra* (2953), *Emydura macquarii dharuk* (2955), *Emydura macquarii emmotti* (2949), *Emydura macquarii gunabarra* (2954) and *Emydura macquarii signata* (2035) are listed as R1, Companion. Allozyme studies have been unable to distinguish any of these subspecies, and have proposed that they all be treated as a single variable species (e.g., Georges, A. & Adams, M. 1996. Electrophoretic delineation of species boundaries within the short-necked chelid turtles of Australia. Zoological Journal of the Linnean Society 118, 241–260). The subspecies from eastern coastal NSW (*E. m. dharra*, *E. m. dharuk*, *E. m. gunabarra* and *E. m. signata*) are distinguishable only by subtle differences of shell shape, eye color and body size, and these have been attributed by some to be simply phenotypic adaptations to different river systems, with much variation within populations. Further, shell shape and body size are plastic characters that can be readily modified by captive husbandry. Hence, without knowledge of the source populations, or examination of individuals by those with extensive experience with this variation, it is not possible to unequivocally identify any individual to these subspecies. Any attempt therefore to discriminate between a Coded *Emydura macquarii* and a Class R1 *Emydura macquarii* by the average keeper or pet shop (or by OEH staff) is likely to fail. Hence, we recommend that all of the subspecies of *Emydura macquarii* be treated as Code regulated. The populations ascribed to *E. m. krefftii* are widespread and abundant in their native Queensland, and given the numbers of these, and of *E. macquarii macquarii* (populations from west of the Great Dividing Range in NSW) available at hatchlings in the pet trade, we see no evidence for, or likelihood of, depletion of native populations of the east coast NSW subspecies (if they are recognisable) from loss of regulation.

Should, however, a decision be made to maintain 2034 as distinct from the other code numbers, then 2034 should be restricted to *Emydura macquarii macquarii*, rather than the species in its entirety as currently listed. To treat the full species *Emydura macquarii* differently to some of the “subspecies” subsumed within it, is unworkable.

c. *Morelia spilota* subspecies. The current proposal discriminates between the subspecies *M. spilota cheynei* (5094), *M. spilota imbricata* (5098), *M. spilota mcdowelli* (5095), *M. spilota metcalfei* (5097), and *M. spilota variegata* (5099), and the species *Morelia bredli* (2623) on the one hand (as Code regulated subspecies/subspecies), and the subspecies *M. spilota spilota* (5096), various hybrids between *M. spilota spilota* and other subspecies and species (T165, T170, T171, T166, T165 – we

note in passing that the current listing errs in giving species status rather than subspecies status to *M. s. cheynei*, *M. s. mcdowelli* and *M. s. metcalfei* in these descriptors, and assigns the codons T166 and T171 to the same hybrid!), and hybrids between other combinations of species and subspecies of *Morelia* (T903, T164, T167), on the other hand (all as R1, Companion). We see no reason for this distinction. There are four reasons for our argument.

1. While the “hybrid” category presumably applies to instances of hybridisation between pure lineages in captivity, there are intergrade zones in the wild between some of these “subspecies”, particularly between *Morelia spilota spilota* and *Morelia spilota mcdowellii*. Some captive animals were originally derived from these intergrade zones, which show continuous variation between “typical” *M. s. spilota* and “typical” *M. s. mcdowellii*. Hence, for some captive individuals (and wild populations), it is impossible to be sure just what is a “typical” *M. s. spilota* (Class R1) and a “typical” *M. s. mcdowellii* (Code regulated). There are no morphological markers that distinguish the two other than coloration, and differing combinations of the colour traits can occur in different individuals from the intergrade zone.
2. The subspecies *M. s. mcdowellii*, *M. s. metcalfei*, *M. s. variegata* and *M. s. cheynei* are not readily differentiable on morphology alone – they largely just represent geographically discrete populations with somewhat different coloration. Captive animals of these four “subspecies” of unknown provenance frequently produce debate among keepers about just what the identity of the animal is. Hence, a significant number of captive individuals can be identified by different keepers as different: “Jungle”, “Coastal”, “Murray-Darling” or “Darwin” carpet pythons, and often there is little agreement about the identity of a single snake. In the latter case, the current proposal would require the keeper to obtain a license if any two people disagreed about the original source population/identity of the animal.
3. This is exacerbated by the interest in captive breeding for unusual colour morphs which, while being more valuable in the trade (relatively few keepers now deliberately select animals that have natural “wild-type” colour patterns), often obscure or efface the colour pattern elements that are useful in discriminating between the subspecies. Hence, captive-bred animals with modified colour patterns will often be difficult to assign to their parent subspecies, even without any hybridisation.
4. With no licensing/oversight over the “pure” subspecies, it is quite likely there will be further instances of inadvertent or deliberate captive hybridisation between the subspecies, making any such instances requiring the keepers to change license categories, an inability to unequivocally identify the animals they obtain from others to those categories. This will create compliance

difficulties – OEH staff and novice keepers are not sufficiently experienced to distinguish parental stocks, and even experienced keepers may be uncertain, or disagree among themselves.

We see numerous instances of disagreements over identification on Facebook snake and reptile identification forums, where disputes often arise about the identity of snakes rescued or seen in suburbia (indeed, this may result in wild pythons that have atypical coloration for that area being identified as different subspecies, and “rescued” as escapee captives).

None of the subspecies of *Morelia spilota* that are common in the pet trade (*M. s. spilota*, *M. s. variegata*, *M. s. mcdowelli*, *M. s. cheynei*) are in any way threatened in the wild, although there have been some suggestions that some local populations of *M. s. metcalfei* and *M. s. imbricata* may have declined (e.g., for the former, Michael D.R. & Lindenmayer, D.B. 2008. Records of the Inland Carpet Python, *Morelia spilota metcalfei* (Serpentes: Pythonidae), from the South-western Slopes of New South Wales. Proceedings of the Linnean Society of New South Wales 129: 253–261; Michael, D.R. & Alexander, J. 2015. Records of the Inland Carpet Python *Morelia spilota metcalfei* (Serpentes: Pythonidae) in the North East Catchment Management Area, north-east Victoria, and the implications for fire planning. Victorian Naturalist 132(2): 36-43; Heard, G.W., Robertson, P., Black, D., Barrow, G., Johnson, P., Hurley, V. & Allen, G. 2006. Canid predation: a potentially significant threat to relic populations of the Inland Carpet Python *Morelia spilota metcalfei* (Pythonidae) in Victoria. Victorian Naturalist 123: 68–74). However, such declines are mostly due to habitat disturbance (clearing for agriculture), fire regimes, and predation by feral carnivores rather than being in any way due to collection for the pet trade. As we note above, there is plentiful supply of captive-bred animals of *Morelia spilota metcalfei* in the pet trade, and the demand in the pet trade is primarily for colour morphs that are atypical of wild populations. Hence, there is little risk of any significant illegal collection of this, or other subspecies.

Despite this, there has been a long-standing and inexplicable resistance by OEH and NSW NPWS to recognising the Diamond Python *M. s. spilota* as a non-threatened taxon, which may have led to the perception that Diamond Pythons needed to be treated differently to other Carpet Python subspecies. This was noted in the initial negotiations between the Reptile Keepers’ Association and NSW NPWS that ultimately developed the current set of reptile keeping regulations (Chapman, C. 1985. Submission to the New South Wales National Parks & Wildlife Service. Reptile Keepers’ Association, Sydney), and was the reason for a report on Diamond and Carpet Pythons in NSW by Shine (1994. The biology and management of the Diamond Python (*Morelia spilota spilota*) and Carpet Python (*M. s. variegata*) in NSW. Species Management Report 15. NSW National Parks and Wildlife Service, 48 pp.) commissioned by the Service, which failed to identify any evidence for threatened status for the Diamond Python. Indeed, mark-recapture studies by one of Shine’s then-

PhD students, Dr David Slip, found the subspecies to be common in Sydney bushland, but difficult to locate due to cryptic coloration and ecology.

There is very limited genetic variation within or between the various “subspecies” of *Morelia spilota* in eastern Australia (Taylor, D.A. 2005. Using DNA markers for wildlife management and protection: a study of the population structure and systematics of the Australian carpet pythons (Reptilia: *Morelia spilota* complex). PhD Thesis, Flinders University, Adelaide, SA), and it is possible that the current division into subspecies reflects adaptation of the phenotype to local environments rather than distinction of discrete lineages. Hence, the current distinction by OEH of “subspecies” of *Morelia spilota* that are assigned to different license categories, would seem to be unwarranted.

d. The Northern Bluetongue, *Tiliqua scincoides intermedia* (5057) – this is currently R2, a category that does not reflect the ease of keeping, and the ample supply of captive-bred offspring in the trade. *Tiliqua scincoides intermedia* is a more colourful subspecies of *Tiliqua scincoides*, and is the target of much captive breeding for unusual colour morphs. It is widespread and readily available in the pet trade in Australia. The subspecies has a natural distribution across tropical Queensland, Northern Territory and Western Australia, and until recently, wild populations were common. However, the arrival of the Cane Toad in the Northern Territory and the Kimberley has resulted in wild populations plummeting in numbers, as they are particularly sensitive to cane toad toxins (Price-Rees, S.J., Brown, G.P. & Shine, R. 2010. Predation on toxic cane toads (*Bufo marinus*) may imperil bluetongue lizards (*Tiliqua scincoides intermedia*, Scincidae) in tropical Australia.

Wildlife Research 37(2):166-173), to the point where they are now difficult to find in the wild. Hence, with the combination of reduced wild populations that are difficult to find, abundant availability of captive-bred animals, and a preference for unusual captive-bred colour morphs in the trade, there is no risk to wild populations of this subspecies being made Code-regulated. Further, its captive requirements are similar to the Code-regulated *Tiliqua scincoides*. As with *Emydura macquarii*, we note that the current proposal places the entire species *Tiliqua scincoides*, and not just the most widespread subspecies, as T2580, and hence the proposal is inconsistent in having the entire species as Code-regulated, but one subspecies within this species as not Code-regulated.

Adoption of these four recommendations will result in the Code-regulated list growing by one species, and making the identification of Code-regulated animals simpler (hence facilitating compliance), without any increase in conservation risk to any taxon.

### **3. The proposed method for making changes to assignment/addition of taxa to Reptile Licensing categories:**

The proposal to use a specific tool to make future assignments of species to the Reptile Licensing categories, while it may appear logical, is problematic.

The currently proposed tool seeks to determine, with evidence, a balance between risk to wild populations of illegal collection, and the availability of ample captive-bred stock to supply the market. However, for the addition of taxa to the list that are not currently held in captivity in NSW, it is likely that the captive numbers of these taxa in their states of origin are likely to be low (or else they would already be available in captivity in NSW). This will effectively make it impossible for any new species to be added to the NSW list, as such species would need to be already well-established in captivity rather than the intent of the addition being to allow for the establishment of the species in captivity by expanding the captive population through allowing more keepers to maintain the species. Further,

Hence, we wish to propose the following:

#### **a. Addition of new species to the NSW Reptile License lists that are not native NSW species.**

We believe that if there is evidence that the species is able to be legally held in a state or territory of origin of the species, then it should automatically be able to be added to the NSW Reptile Keeper lists on request (as a consequence of import permit application in NSW and the availability of an export permit approval in the state of origin, if import/export permits remain), initially at the highest category for that group of organisms (R2 for non-venomous species). This allows for rapid approval should surplus animals be available in another state, facilitating growth and long-term maintenance of the captive population Australia-wide. It is important to recognise that for many reptile species, the size of the captive population is likely to remain low, due the limited pool of reptile keeping enthusiasts within Australia, and even more limited pools within each state or territory. Hence, maintenance of the species in captivity through breeding of the captive population will need to involve as much of the keeping fraternity as possible. Restriction of the captive population of any reptile species to a single state will hamper continuation of that species in captivity, and will risk illegal take from the wild to maintain captive stocks. For species that are not native to NSW, it is considered that the decision as to whether these species can be held in captivity, and the risk to native populations from illegal take from the wild, should be the responsibility of the states or territories in which the taxon occurs naturally, and that NSW should simply comply with that decision, particularly for species where there is no conservation concern (those that are listed by

IUCN as Least Concern – we further note that all Australian reptile species have recently been assessed by IUCN).

b. Addition of species to the Reptile License lists that occur as natural populations in NSW.

For these species, NSW is a party to the conservation of these species, under the NSW Biodiversity Conservation Act, and needs to use the principles of that Act to determine whether the species should be held in captivity. The proposed tool could be used in these cases. However, we note that when the Reptile Keeper License system was created in NSW, one of the requirement of establishment of the system was that every species of reptile native to NSW be categorised in the Reptile Keeper License schedules, and every species of reptile was so categorised, with Codons under the various schedules (at the time, Classes R1 and R2, in most cases). Species in R1 were those that were of no conservation significance, abundant in the wild in NSW, and for which there was no risk to wild populations from the pet trade, and species categorised as R2 were those that were considered to be more difficult to maintain successfully in captivity, and/or had more limited distributions or abundance in NSW, such that continued monitoring of captive stocks was considered necessary to minimise illegal take from the wild. Hence, there is already categorisation of all NSW reptile species, with numerical codons for these species. However, following the first few years of reptile licensing under the new system, many of these species turned out to not be held in captivity in the state, and to simplify the categories, reptiles previously categorised that were not held were dropped from the lists. Restoring these species to the lists, with the existing codes, as necessary (as animals of those species became legally available in other states) would comply with the BCA, while reducing red tape inherent in formally reconsidering species for addition that were previously listed based on their conservation status. OEH should have records of the previous listings. If they are unable to be found, we are happy to resupply them to OEH.

c. Changes in category of species listed in the Reptile Keeper License system.

It is for these species that we consider the proposed tool is most useful, and we support the tool being used in these cases, in-principle. This reflects the previous requirement for changes in categorisation – evidence that the species was being bred in sufficient numbers in NSW and interstate to supply any existing market for that species in captivity, and that the wide availability of captive-bred stock would minimise the risk of animals being collected from the wild and laundered into the system to maintain stock.

However, there is insufficient detail in the current proposal from OEH to offer full support for the recommendation that the tool be used. Firstly, as we note, we would recommend that the tool only be used for changes in category, or for native NSW species that have not already been categorised in

NSW (excluding those species that have previously been categorised and the categorisation dropped through lack of a local captive pool – such species can readily be reinstated to the list). Secondly, we note that there is as yet no detail as to who will make the judgement to make changes in response to applications – we would request that the HCN or its representatives be involved in any decision-making process, preferably through an advisory committee such as the former Native Animal Keepers' Consultative Committee. Such a committee will provide expertise on husbandry-related matters (such as the likelihood of a species being successfully maintained and bred in captivity) that are essential in making decisions as to categorisation and conservation risk via the captive population failing, expertise that is lacking in OEH. Thirdly, we note that the current proposal had no details on how rapidly decisions will be made – we note that the previous NAKCC was left to lapse by OEH and its predecessors, resulting in decisions to either be made without the opportunity for input/consultations, or long delays in adding species or changing their categories. We would recommend that any applications be dealt with more promptly than previously, and with appropriate consultation. We would certainly recommend that the process of change not take more than one year, which may require multiple meetings of the consultative committee each year (as was the original NAKCC arrangement).

#### **4. The current allocation of venomous snake species to the Reptile Keeper Categories.**

The current allocation of venomous snake species (almost all of them elapids) to the Reptile Keeper License categories has numerous inconsistencies. These arose because the addition of categories R3, R4 and R5 was made subsequent to the original licensing system, and the decisions were made by NPWS staff without input from herpetoculturists.

A small number of elapid species (*Brachyurophis australis*, 2711; *Cacophis krefftii*, 2626; *Cacophis squamulosus*, 2647; *Demansia psammophis*, 2655; *Denisonia devisi*, 2660; *Drysdalia coronoides*, 2665; *Drysdalia rhodogaster*, 2805; *Furina diadema*, 2669; *Furina ornata*, 2807; *Hemiaspis signata*, 2674; *Parasuta dwyeri*, 2726) are currently listed on R1. With the exception of *Furina ornata*, all are small species native to NSW, only mildly venomous, and readily kept, and were first placed on R1 at the time that the reptile licensing system was created. *Furina ornata*, a species not native to NSW, was subsequently added to R1 due to its similarity to *F. diadema* in husbandry, and the lack of any conservation concern for this species. We support the continued retention of these species in R1.

Currently, there is one elapid species on R2, *Demansia papuensis*, while all other elapids have been moved to R3, R4 and R5. It is not clear to us why the remaining moderately venomous elapids are in R3-R5, while *Demansia papuensis* remains on R2. *Demansia papuensis* is a large, fast-moving elapid

species, attaining lengths of more than 1 metre. While it is not known to have caused human fatalities, its venom does cause alarming local symptoms of pain and swelling, while many of the species currently on R3 and R4 are smaller, bite less readily, and have much less toxic venoms.

There are 8 species on R3: the three species of *Hoplocephalus* (*H. bitorquatus*, 2675; *H. bungaroides*, 2676; *H. stephensi*, 2677, plus hybrids, T161), two species of *Parasuta* (*P. flagellum*, 2727; *P. spectabilis*, 2813), the bandy-bandy (*Vermicella annulata*, 2734), the red-bellied black snake (*Pseudechis porphyriacus*, 2693) and Collett's snake (*Pseudechis colletti*, 2691). The first seven species are native to NSW, and were placed originally in R2, as moderately venomous species that required more expertise to keep successfully, and/or were of conservation significance in NSW (*Parasuta flagellum* and *P. spectabilis* have much more restricted distributions in NSW than *P. dwyeri*, which is R1). They were subsequently moved to R3 when NSW NPWS decided to create a separate category for venomous species. As with the R1 species, we are generally in support of the R3 species, if the Licensing system wishes to separate R3 venomous species from R2 non-venomous species. Both categories contain species that are of greater conservation concern, or have more specialised captive needs/experience than those in R1, although it is not clear why *Demansia papuensis* remains on R2, rather than moving to R3 (or R4). Further, we do not understand why *Parasuta spectabilis* appears twice on this list, once as the entire species (2813), which is inclusive of all subspecies, and once as the nominate subspecies, *P. s. spectabilis*, 5112, when neither of the other two subspecies, *P. s. nullabor* and *P. s. bushi*, which do not occur in NSW, are held in captivity.

R4 contains species that are dangerously venomous, but which can be readily kept in captivity by moderately experienced keepers without high risk. These include the various death adder species (*Acanthophis antarcticus*, 2640; *Acanthophis praelongus*, 2804; *Acanthophis pyrrhus*, 2641, *Acanthophis wellsei*, 2833), the copperheads (*Austrelaps ramsayi*, 2615; *Austrelaps superbus*, 2642), the tiger snakes (*Notechis ater*, 2680; *Notechis scutatus*, 2681, although we note that only a single species of tiger snake, *N. scutatus*, is currently recognised), most of the brown snakes (*Pseudonaja affinis*, 2694; *P. ingrami*, 2696; *P. modesta*, 2697; *P. nuchalis*, 2698), and most of the remaining black snakes (*Pseudechis australis*, 2690; *P. butleri*, 2814), together with two species that are considered less dangerously venomous, but which are known to have caused rare fatalities, or suspected of being potentially dangerously venomous (*Cryptophis nigrescens*, 2650; *Suta suta*, 2722). A case can readily be made for these 16 species to be in one category. However, the category also includes *Denisonia maculata* (2662), a species not native to NSW, which is morphologically and ecologically similar to *Denisonia devisii*, and has a similar venom toxicity and similar husbandry needs. If this species is to be kept in a separate category to *Denisonia devisii*, and in one of the categories R3-5, it should be in R3 with the other mildly venomous species. It is misplaced in R4.

R5 includes three species that are considered to represent the highest risk of and from envenomation: the Eastern Brown Snake (*Pseudonaja textilis*, 2699), and the two taipan species (*Oxyuranus microlepidotus*, 2689; *Oxyuranus scutellatus*, 2688), together with one species with somewhat less toxic venom, but which is regarded as being a particular challenge to work with due to its nervous temperament (*Tropidechis carinatus*, 2723). We readily recognise these four species as the highest category, requiring markedly greater experience than other species. However, the R5 category also contains two other species that would seem misplaced. *Pseudonaja guttatus* (2695) is a smaller brown snake species, and we can see no reason why it is placed with the larger *P. textilis*, rather than with the other brown snake species in R4. The decision to place the species in R5 was not made in consultation with the then NAKCC. The other species, *Pseudechis weigeli* (T1041) is the smallest species in the genus *Pseudechis*, and was only distinguished from its much larger relative *Pseudechis australis*, which is categorised as R4, in recent decades. Again, this species was placed in R5 by NPWS without consultation with the NAKCC, when its venom toxicity and ecology suggests it should be in the same category as *P. australis* (R4).

Hence, in summary, we recommend the following changes to elapid categories, to make the lists reflective of, and consistent with, the risks of envenomation, together with the conservation status of these species:

*Demansia papuensis* (2654), the only elapid currently on R2, to move to R3.

*Parasuta spectabilis* (2813) and *Parasuta flagellum* (2727), currently on R4, to move to R3 (and *Parasuta spectabilis spectabilis*, 5112, to be subsumed within 2813)

*Denisonia maculata* (2662), currently on R4, to move to R3

*Pseudonaja guttata* (2695), currently on R5, to move to R4

*Pseudechis weigeli* (T1041), currently on R5, to move to R4

These obvious miscategorisations highlight the need for OEH to consult with skilled herpetologists and herpetoculturists (preferably through a consultative committee with HCN representation) rather than making decisions without consultation.

## **5. Proposals for additions of several species to the current licensing categories**

The HCN notes that there are numerous species native to NSW that have been categorised in the past, but which are not currently held in NSW, and for which the categories and codes have been left to lapse. If legal sources of these species become available in other states and NSW keepers wish to import them, the species, their codes, and their categories should be reinstated on the NSW list without delay.

The time period available for submissions to the current draft proposals have not been sufficient for HCN to fully prepare individual submissions for all possible species that local keepers may wish to add to the current species list, or for all potential changes in categorisation of currently listed species. In particular, we lack details of exactly how many keepers and individual animals are being held throughout the Australian states and territories – these data are often only available to the relevant government departments.

However, we are aware that at least the following 44 species are held in captivity in other states (SA, NT and Qld), either by private licensees, or by a research facility that is able to transfer its live animals to private keepers when the research is completed. This list is certainly incomplete, and most of the species on it are currently held in small numbers in captivity Australia-wide. However, the likely demand for these species is very small (they are only being held by specialist keepers, and we cannot foresee any reason why they would become more popular in the future), and hence the likely threat to wild populations from any collection is minimal or absent. Restricting access to the already limited captive pool by excluding them from NSW keepers will not facilitate maintenance of the captive populations of these species in Australia. We firmly believe that it is better to monitor the captive populations of these species by licensing them in NSW, should there be a desire by any keeper to bring individuals of such species into NSW.

Of the 44 species on this partial list, 11 are native to NSW, and have been previously categorised and allocated a Code number (*Calyptotis scutirostrum*, *Carlia vivax*, *Ctenotus schomburgkii*, *Lerista punctatovittata*, *Morethia adelaidensis*, *Morethia obscura*, *Saproscincus challengerii*, *Brachyurophis australis*, *Cacophis harriettae*, *Echiopsis curta*, *Hemiaspis daemeli*), but have dropped off the NSW list when any locally-held individuals have aged and died. An additional 11 species (*Austrelaps labialis*, *Cryptophis boschmai*, *Cryptophis nigrostriatus*, *Cryptophis pallidiceps*, *Demansia torquata*, *Demansia vestigiata*, *Elapognathus coronata*, *Pseudonaja inframacula*, *Pseudechis papuensis*, *Suta fasciata*, *Suta punctata*) have existing NSW codes, indicating they were formerly kept in NSW, despite not being native to the state.

Should a NSW keeper wish to hold these species, and the others on the list, through legal transfer from their state of origin, there should be no impediment, and the species can be readily immediately reinstated to the active list (they are already on inactive lists with codes and categories).

Three further species on the list below (*Ctenophorus infans*, *Ctenophorus slateri*, *Diporiphora phaeospinosa*) form another category. They are presently held in NSW, but under former names and codes, as well as being available in captivity interstate. As we note in the earlier part of this submission, the numerous nomenclatural and taxonomic changes to the Australian herpetofauna since the NSW lists were first compiled mean that these two species are likely to be only a small number of the possible cases in this category. Such species that are already in NSW legally under their former names should have new codes created for them, and allocated to the category to which their former species was allocated, to prevent the current legally obtained animals being made illegal through default.

We have provided at the end of this section, completed Draft Risk Assessment Tools for *D. phaeospinosa*, *C. infans* and *C. slateri*, to facilitate this process. While this tool is presently in draft form, and it is uncertain how the tool will be used, or the level of detail required in the application, these two applications should be considered a trial run of the proposed process.

We also provide four additional applications for the addition of agamid species not presently or previously held in NSW. The first three of these (*Diporiphora albilabris*, *D. arnhemica*, *D. lalliae*) are for species not currently held (to our knowledge) in captivity in Australia. For these three species, applications for permits to collect the species from the wild in the NT have been submitted, and have received favourable replies. These three DRATs should be considered a test of the proposed system for dealing with species not presently held in captivity. Due to the need to obtain animals before the NT permits for collection expire, it is important that these applications be considered and a decision made, without a long delay period. Such a situation is likely to occur with other species in the future where the species is taken from the wild in a state that permits such activities (as in the NT) – hence our applications to test the proposed system.

The fourth application for a small dragon, for *Moloch horridus*, is for the addition of a species that is currently being bred successfully in captivity in other states, for which a source of captive-bred animals is available, and for which there is no threat to wild populations from any collection. This is a species that only specialised small dragon keepers will be able to successfully keep, due to its peculiar feeding requirements. Again, this application should be considered a test of the proposed system, for the addition of species to the NSW list, that are already available in captivity in other states.

We conclude the DRATs with applications to change category for three turtle species that are currently on the NSW lists: *Emydura australis*, *Emydura subglobosa* and *Emydura tanybaraga*. These three applications will allow the proposed system to be tested to see how it performs in applications to change categories.

**Partial list of lizard and snake species for which applications to hold or import the species may occur.**

**Pygopods:**

Northern Hooded Scalyfoot (*Pygopus steelescotti*). Source: Private keepers in Qld. Endemic to WA, NT, Qld. This species was until recently considered part of *P. nigriceps* and *P. schraderi*, and hence it is possible that the current captive population may have been originally obtained and held under those names. Both of the latter species are able to be legally held in NSW (2175, 2911).

**Skinks:**

Scute-snouted Calyptotis (*Calyptotis scutirostrum*). Source: Qld private licensee. Endemic to NSW, Qld. Formerly categorised in NSW, but not currently held here.

Lively Rainbow Skink (*Carlia vivax*). Source: Qld private licensee. Endemic to NSW, Qld. Formerly categorised in NSW, but not currently held here.

Robust Rainbow Skink (*Carlia schmeltzii*). Source: Qld private licensee. Endemic to Qld.

Barred Wedge Snout Ctenotus (*Ctenotus schomburgkii*). Source: SA private licensees. Endemic to WA, SA, NSW, NT, Qld. Formerly categorised in NSW, but not currently held here.

Western Slender Blue-tongue (*Cyclodomorphus celatus*) Source: Qld private licensee. Endemic to WA.

Lemon-barred Forest Skink (*Concinnia amplus*) Source: Qld private licensee. Endemic to Qld.

Goldfields Crevice Skink (*Egernia formosa*). Source: SA and Qld private licensees. Endemic to WA.

Bull skink (*Egernia multiscutata*). Source: SA private licensees. Endemic to WA, SA, Vic.

Elf skink (*Eroticoscincus graciloides*). Source: Qld private licensee. Endemic to Qld.

Orange-sided Bar-lipped Skink (*Eremiascincus douglasi*) Source: Take from the wild permits are being reviewed in the NT and collection of them is soon to happen. Endemic to NT.

Eastern Robust Slider (*Lerista punctatovittata*). Source: SA private licensees (and soon to be exempted from licensing requirements). Endemic to SA, Vic, NSW, Qld. Formerly categorised in NSW, but not currently held here.

Robust Mulch Slider (*Lerista terdigitata*). Source: SA private licensees. Endemic to NSW

Saltbush Morethia Skink (*Morethia adelaidensis*). Source: SA private licensees (and soon to be exempted from licensing requirements). Endemic to WA, SA, Vic, NSW. Formerly categorised in NSW but not currently held here.

Shrubland Morethia Skink (*Morethia obscura*). Source: SA private licensees (and soon to be exempted from licensing requirements). Endemic to WA, SA, Vic, NSW. Formerly categorised in NSW, but not currently held here.

Challenger Shade Skink (*Saproscincus challengerii*), Source: Qld private licensee. Endemic to NSW, Qld. Formerly categorised in NSW, but not currently held here.

### **Dragons:**

Goldfields Ring tailed Dragon (*Ctenophorus infans*). Source: Private keepers in NSW, Qld (the former under the previous name *Ctenophorus caudicinctus*, code 2178). Endemic to WA.

Slater's Ring-tailed Dragon (*Ctenophorus slateri*). Source: Private keepers in NSW, Qld (the former under the previous name *Ctenophorus caudicinctus*, code 2178). Endemic to WA, NT, Qld.

Black-spined Dragon (*Diporiphora phaeospinosa*). Source: Private keepers in NSW, Qld (under the previous name *Amphibolurus nobbi*, Code 2195). Endemic to Qld.

### **Goannas:**

Bush's Monitor (*Varanus bushi*). Source: Private keepers in SA, Qld. Endemic to WA. A few were legally imported into NSW in the past, and may still be around (likely under former names *Varanus gilleni* or *Varanus caudolineatus*, and the now-unused codons for those species).

Blue Tailed Monitor (*Varanus doreanus*). Source: Qld private licensee (possibly under the former name *Varanus indicus*). Endemic to Qld. It is possible that some *V. indicus* held in NSW may represent this species, which has only recently been distinguished from *V. indicus* in Australia.

Rusty Desert Monitor (*Varanus eremius*). Source: Private keepers in SA, Qld. Endemic to WA, SA, NT, Qld.

**Emerald Tree Monitor (*Varanus prasinus*).** Source: Private keepers in Qld. Endemic to Qld. (We note that the species was originally established, with permission from Qld authorities, from stock confiscated from another state. Hence, although the original stock may have been illegally obtained, the state responsible for the conservation of this species has permitted it to be held, bred and the offspring transferred among private keepers).

**Pythons:**

Oenpelli Python (*Simalia oenpelliensis*). Source: Private keeper in NT. Endemic to NT. (We note that the NT authorities have facilitated the legal collection of a captive founder population with the aim of establishing a captive population. Continued survival of this captive population will require a larger pool of keepers than at present, and this is part of the approved plan for an increase in the size of the captive population. We see no reason why NSW keepers should be prevented from participating in this important conservation project).

**Elapid snakes:**

Warrego Burrowing Snake (*Antaioserpens warro*). Source: Research establishment in SA. Queensland endemic species, no previous code for NSW.

Pygmy Copperhead (*Austrelaps labialis*). Source: Research establishment in SA. South Australian endemic species. Formerly held in NSW: Code U2614.

Australian Coral Snake (*Brachyurophis australis*). Source: Research establishment in SA. Endemic to NSW, Qld. Formerly categorised in NSW, but dropped off list.

Unbanded Shovel-nosed Snake (*Brachyurophis incinctus*). Source: Research establishment in SA. Endemic to NT/Qld.

White-crowned Snake (*Cacophis harriettae*). Source: Research establishment in SA. Endemic to NSW, Qld. Formerly held in NSW, Code K2645.

Carpentaria Snake (*Cryptophis boschmai*). Source: Research establishment in SA. Endemic to Qld. Formerly held in NSW, Code Y2812.

Black-striped Snake (*Cryptophis nigrostriatus*). Source: Research establishment in SA. Endemic to Qld. Formerly held in NSW, Code E2730.

Northern Small-eyed Snake (*Cryptophis pallidiceps*). Source: Research establishment in SA. Endemic to Qld, NT, WA. Formerly held in NSW, Code G2651.

Collared Whip Snake (*Demansia torquata*). Source: Research establishment in SA. Endemic to Qld. Formerly held in NSW, Code U2658.

Black Whip Snake (*Demansia vestigiata*). Source: Research establishment in SA. Endemic to WA, NT, Qld. Formerly held in NSW, Code Y2652.

Western Crowned Snake (*Elapognathus coronatus*). Source: Research establishment in SA. Endemic to WA. Formerly held in NSW, Code Q2664.

Bardick (*Echiopsis curta*). Source: Research establishment in SA. Endemic to NSW, Vic, SA, WA. Formerly held in NSW, Code W2667.

Brown-headed Snake (*Furina tristis*). Source: Research establishment in SA, Endemic to Qld.

Grey Snake (*Hemiaspis damelii*). Source: Research establishment in SA. Endemic to NSW, Qld. Formerly held in NSW, Code S2673.

Monk snake (*Parasuta monachus*). Source: Research establishment in SA

Peninsula Brown Snake (*Pseudonaja inframacula*). Source: Research establishment in SA. Endemic to SA. Formerly held in NSW, Code Q2700.

Western Brown Snake (*Pseudonaja mengdeni*). Source: Research establishment in SA. Endemic to WA, SA, NT, NSW, Qld. Likely held in NSW, under the former name *P. nuchalis*, Code M2698.

Papuan Black Snake (*Pseudechis papuanus*). Source: Research establishment in SA. Endemic to Qld. Formerly held in NSW, Code Q5672.

Rosen's Snake (*Suta fasciata*). Source: Research establishment in SA; private keepers in Qld. Endemic to WA. Formerly held in NSW, Code K2661.

Little Spotted Snake (*Suta punctata*). Source: Research establishment in SA; private keepers in Qld. Endemic to WA, NT, Qld. Formerly held in NSW, Code Z2663.

# Draft Species Risk Assessment Tool

For use in assessing proposed changes to NSW animal keeper species list

SPECIES			
<b>Common Name</b>	Black Spined Nobbi Dragon		
<b>Scientific Name</b>	Diporiphora phaeospinosa		
<b>Current Species List Class</b>	was Diporiphora nobbi	<b>Proposed Class</b>	<b>2</b>
PROPOSED BY			
<b>Organisation</b>	Mark Hawker		
<b>Email</b>	jsmaustralia@bigpond.com		
<b>Contact Person</b>	Mark Hawker	<b>Telephone</b>	<b>0432326163</b>

## HUMAN HEALTH & SAFETY RISKS

<b>Potential injuries and/or diseases</b>	None		
<b>Likelihood</b>	Low	<i>HIGH</i> Frequent (more than 10 events p.a. in Australia) <i>MEDIUM</i> Occasional (1-10 events in Australia) <i>LOW</i> Not known to harm human safety and safety	
<b>Consequence</b>	Low	<i>HIGH</i> Life threatening or fatal. <i>MEDIUM</i> Requires medical treatment. <i>LOW</i> No treatment or minor first aid only.	
<b>Details &amp; References</b>	None		

## RISK OF ESCAPED ANIMALS TO THE ENVIRONMENT

<b>Potential impact of escaped animals</b>	None		
<b>Likelihood</b>	Low	<i>HIGH</i> Readily survive and reproduce in the wild. <i>MEDIUM</i> Might survive and reproduce in the wild <i>LOW</i> Would not survive and reproduce in the wild	
<b>Consequence</b>	Low	<i>HIGH</i> Impacts may be significant and widespread. <i>MEDIUM</i> Impacts may be limited or controlled. <i>LOW</i> Little or no impact.	

<b>Details &amp; References</b>	Not likely to survive if escaped.
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## RISK OF TAKE FROM THE WILD

<b>Estimated captive population in Australia</b>	UNKNOWN	
<b>Conservation status in the wild</b>	Least concern IUCN Red list 2018	
<b>Impact on wild populations</b>	Not known	<p><i>HIGH Adequate supply is not available from lawful sources interstate.</i></p> <p><i>LOW Adequate supply is available from lawful sources interstate</i></p>
<b>Sources of lawful supply</b>	<p><b>Currently not known due to new species description. One of my original sources for these has since moved out of keeping dragons altogether</b></p>	

## WELFARE & HUSBANDRY

<b>Dietary requirements</b>	Insectivore		
<b>Housing requirements</b>	Similar housing and keeping requirements to Diporiphora nobbi. Mid range temps 30 degrees basking spot around 40 degrees, low humidity, sand substrate with some rock, leaf litter.		
<b>Ease of breeding</b>	Breeds readily in suitably maintained habitat		
<b>Other issues</b>	This species was recently split from the Diporiphora nobbi group where it was regarded as a northern form of the subspecies Diporiphora nobbi nobbi. Following DNA testing in 2011/12 it was described as a new species within the group.		
<b>Keeper competency</b>	Basic	NONE	<i>Easy to keep and handle, no specific expertise required</i>
		BASIC	<i>Safe to keep and handle, if guidance material available</i>
		EXPERT	<i>Complex to keep and handle, high safety risks, training and/or experience required</i>
<b>Sources of guidance material and training</b>	Several published references for maintenance of captive specimens of small ground dragons.		

## OTHER COMMENTS IN SUPPORT OF PROPOSED CHANGE

I believe this species has been in a couple keepers collections in NSW and QLD for many years including my own for at least the last 8-10 years. The founding animals were legally acquired from several different sources in Queensland. They were imported into NSW on valid import permits as *Diporiphora nobbi*.

I have bred this species 4 or 5 times over the time period I have maintained them in captivity. I was always aware they were a separate form of the subspecies *Diporiphora nobbi nobbi* so I always maintained genetic purity and made sure they were never housed and or cross bred with other forms or subspecies of *Diporiphora nobbi*. I do this with all forms of species I hold. A clear example would be I currently have 2 forms of *Ctenophorus fionnii* and 2 forms of *Ctenophorus pictus* that I keep separately. I have no doubt that future analysis will split the *Ctenophorus pictus* group and that there will be at least one new species coming from that group.

# Draft Species Risk Assessment Tool

For use in assessing proposed changes to NSW animal keeper species list

SPECIES			
<b>Common Name</b>	Slater's Ring Tailed Dragon		
<b>Scientific Name</b>	Ctenophorus slateri		
<b>Current Species List Class</b>	was Ctenohorus Caudicinctus	<b>Proposed Class</b>	<b>2</b>
PROPOSED BY			
<b>Organisation</b>	Mark Hawker		
<b>Email</b>	jsmaustralia@bigpond.com		
<b>Contact Person</b>	Mark Hawker	<b>Telephone</b>	<b>0432326163</b>

## HUMAN HEALTH & SAFETY RISKS

<b>Potential injuries and/or diseases</b>	None		
<b>Likelihood</b>	Low	<i>HIGH</i> Frequent (more than 10 events p.a. in Australia) <i>MEDIUM</i> Occasional (1-10 events in Australia) <i>LOW</i> Not known to harm human safety and safety	
<b>Consequence</b>	Low	<i>HIGH</i> Life threatening or fatal. <i>MEDIUM</i> Requires medical treatment. <i>LOW</i> No treatment or minor first aid only.	
<b>Details &amp; References</b>	None		

## RISK OF ESCAPED ANIMALS TO THE ENVIRONMENT

<b>Potential impact of escaped animals</b>	None		
<b>Likelihood</b>	Low	<i>HIGH</i> Readily survive and reproduce in the wild. <i>MEDIUM</i> Might survive and reproduce in the wild <i>LOW</i> Would not survive and reproduce in the wild	
<b>Consequence</b>	Low	<i>HIGH</i> Impacts may be significant and widespread. <i>MEDIUM</i> Impacts may be limited or controlled. <i>LOW</i> Little or no impact.	

<b>Details &amp; References</b>	Not likely to survive if escaped.
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## RISK OF TAKE FROM THE WILD

<b>Estimated captive population in Australia</b>	UNKNOWN	
<b>Conservation status in the wild</b>	Least concern	
<b>Impact on wild populations</b>	Low	<p><i>HIGH Adequate supply is not available from lawful sources interstate.</i></p> <p><i>LOW Adequate supply is available from lawful sources interstate</i></p>
<b>Sources of lawful supply</b>	<b>Breeders in QLD and NT</b>	

## WELFARE & HUSBANDRY

<b>Dietary requirements</b>	Insectivore		
<b>Housing requirements</b>	Similar housing and keeping requirements to <i>Ctenophorus pictus</i> . High temps, some humidity, prefers rock substrate with some sand.		
<b>Ease of breeding</b>	Breeds readily in suitably maintained habitat		
<b>Other issues</b>	This species was recently split from the <i>Ctenophorus caudicinctus</i> group where it was regarded as a subspecies. Following recent DNA testing it was given full species status		
<b>Keeper competency</b>	Basic	<p><i>NONE</i> Easy to keep and handle, no specific expertise required</p> <p><i>BASIC</i> Safe to keep and handle, if guidance material available</p> <p><i>EXPERT</i> Complex to keep and handle, high safety risks, training and/or experience required</p>	
<b>Sources of guidance material and training</b>	Several published references for maintenance of captive specimens of small ground dragons.		

## OTHER COMMENTS IN SUPPORT OF PROPOSED CHANGE

This species has been in keepers collections in NSW and other states including my own for at least 10 years. The founding animals were legally acquired from several different sources in Queensland. They were imported into NSW on valid import permits as *Ctenophorus Caudicinctus*.

# Draft Species Risk Assessment Tool

For use in assessing proposed changes to NSW animal keeper species list

SPECIES			
<b>Common Name</b>	Goldfields Ring Tailed Dragon		
<b>Scientific Name</b>	Ctenophorus infans		
<b>Current Species List Class</b>	was Ctenohorus Caudicinctus	<b>Proposed Class</b>	<b>2</b>
PROPOSED BY			
<b>Organisation</b>	Mark Hawker		
<b>Email</b>	jsmaustralia@bigpond.com		
<b>Contact Person</b>	Mark Hawker	<b>Telephone</b>	<b>0432326163</b>

HUMAN HEALTH & SAFETY RISKS			
<b>Potential injuries and/or diseases</b>	None		
<b>Likelihood</b>	Low	<i>HIGH</i> Frequent (more than 10 events p.a. in Australia) <i>MEDIUM</i> Occasional (1-10 events in Australia) <i>LOW</i> Not known to harm human safety and safety	
<b>Consequence</b>	Low	<i>HIGH</i> Life threatening or fatal. <i>MEDIUM</i> Requires medical treatment. <i>LOW</i> No treatment or minor first aid only.	
<b>Details &amp; References</b>	None		

RISK OF ESCAPED ANIMALS TO THE ENVIRONMENT			
<b>Potential impact of escaped animals</b>	None		
<b>Likelihood</b>	Low	<i>HIGH</i> Readily survive and reproduce in the wild. <i>MEDIUM</i> Might survive and reproduce in the wild <i>LOW</i> Would not survive and reproduce in the wild	
<b>Consequence</b>	Low	<i>HIGH</i> Impacts may be significant and widespread. <i>MEDIUM</i> Impacts may be limited or controlled. <i>LOW</i> Little or no impact.	

<b>Details &amp; References</b>	Not likely to survive if escaped.
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## RISK OF TAKE FROM THE WILD

<b>Estimated captive population in Australia</b>	UNKNOWN	
<b>Conservation status in the wild</b>	Least concern	
<b>Impact on wild populations</b>	Low	<p><i>HIGH Adequate supply is not available from lawful sources interstate.</i></p> <p><i>LOW Adequate supply is available from lawful sources interstate</i></p>
<b>Sources of lawful supply</b>	<p><b>Several keepers in NSW who have successfully bred this species in captivity in the last 12-18 months</b></p>	

## WELFARE & HUSBANDRY

<b>Dietary requirements</b>	Insectivore		
<b>Housing requirements</b>	Similar housing and keeping requirements to <i>Ctenophorus pictus</i> . High temps, low humidity, sand substrate with some rock		
<b>Ease of breeding</b>	Breeds readily in suitably maintained habitat and keeping conditions		
<b>Other issues</b>	This species was recently split from the <i>Ctenophorus caudicinctus</i> group where it was regarded as a subspecies. Following recent DNA testing it was given full species status		
<b>Keeper competency</b>	Basic	NONE BASIC <i>EXPERT</i>	<p><i>Easy to keep and handle, no specific expertise required</i></p> <p><i>Safe to keep and handle, if guidance material available</i></p> <p><i>Complex to keep and handle, high safety risks, training and/or experience required</i></p>
<b>Sources of guidance material and training</b>	Several published references for maintenance of captive specimens of small ground dragons.		

## OTHER COMMENTS IN SUPPORT OF PROPOSED CHANGE

This species has been in keepers collections in NSW including my own for at least the last 4 years. The founding animals were legally acquired from several different sources in Queensland. They were imported into NSW on valid import permits as *Ctenophorus Caudicinctus*. My import permit application actually listed the subspecies *infans*.

# Draft Species Risk Assessment Tool

For use in assessing proposed changes to NSW animal keeper species list

SPECIES			
<b>Common Name</b>	White Lipped Two Lined Dragon		
<b>Scientific Name</b>	Diporiphora albilabris		
<b>Current Species List Class</b>	None	<b>Proposed Class</b>	2
PROPOSED BY			
<b>Organisation</b>	Mark Hawker		
<b>Email</b>	jsmaustralia@bigpond.com		
<b>Contact Person</b>	Mark Hawker	<b>Telephone</b>	0432326163

HUMAN HEALTH & SAFETY RISKS			
<b>Potential injuries and/or diseases</b>	None		
<b>Likelihood</b>	Low	<i>HIGH</i> Frequent (more than 10 events p.a. in Australia) <i>MEDIUM</i> Occasional (1-10 events in Australia) <i>LOW</i> Not known to harm human safety and safety	
<b>Consequence</b>	Low	<i>HIGH</i> Life threatening or fatal. <i>MEDIUM</i> Requires medical treatment. <i>LOW</i> No treatment or minor first aid only.	
<b>Details &amp; References</b>	None		

RISK OF ESCAPED ANIMALS TO THE ENVIRONMENT			
<b>Potential impact of escaped animals</b>	None		
<b>Likelihood</b>	Low	<i>HIGH</i> Readily survive and reproduce in the wild. <i>MEDIUM</i> Might survive and reproduce in the wild <i>LOW</i> Would not survive and reproduce in the wild	
<b>Consequence</b>	Low	<i>HIGH</i> Impacts may be significant and widespread. <i>MEDIUM</i> Impacts may be limited or controlled. <i>LOW</i> Little or no impact.	

<b>Details &amp; References</b>	Not likely to survive if escaped.
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## RISK OF TAKE FROM THE WILD

<b>Estimated captive population in Australia</b>	None	
<b>Conservation status in the wild</b>	Least concern	
<b>Impact on wild populations</b>	Low	<p><i>HIGH Adequate supply is not available from lawful sources interstate.</i></p> <p><i>LOW Adequate supply is available from lawful sources interstate</i></p>
<b>Sources of lawful supply</b>	<p>A collect permit has been applied for from NT Parks and Wildlife to bring 12 individuals into captivity for the purpose of establishing the species in captivity in Australia. The permit is valid until June 2019. I am the intended recipient of all 12 collected specimens</p>	

## WELFARE & HUSBANDRY

<b>Dietary requirements</b>	Insectivore		
<b>Housing requirements</b>	Tall enclosure to allow for climbing. Tropical conditions needed. 28-35 degrees day time temps and medium to high humidity depending on time of year, heavy sand substrate with lots of rock some leaf litter. Dry timber branches for climbing and some spinifex or other type of clumped grass for hiding.		
<b>Ease of breeding</b>	Not known/to be determined		
<b>Other issues</b>	None		
<b>Keeper competency</b>	Basic/expert	NONE BASIC EXPERT	<p><i>Easy to keep and handle, no specific expertise required</i></p> <p><i>Safe to keep and handle, if guidance material available</i></p> <p><i>Complex to keep and handle, high safety risks, training and/or experience required</i></p>
<b>Sources of guidance material and training</b>	Several reference books are available on Dragon lizard husbandry. In some of the more recent publications I have provided on husbandry including captive keeping of Diporiphora species		

## OTHER COMMENTS IN SUPPORT OF PROPOSED CHANGE

I will be relying on my own experience and skill in getting these individuals adapted to a captive environment. I have been successful in adapting legally obtained wild caught individuals of different species into captivity many times over my 30 odd years as a dragon keeper. I intend to publish information and data on successful adaptation of this species into captivity along with successful breeding including clutch size, gestation period, incubation period, etc. Will contribute a significant amount to knowledge bank regarding this species captive biology.

# Draft Species Risk Assessment Tool

For use in assessing proposed changes to NSW animal keeper species list

SPECIES			
<b>Common Name</b>	Arnhem Two Lined Dragon		
<b>Scientific Name</b>	Diporiphora arnhemica		
<b>Current Species List Class</b>	None	<b>Proposed Class</b>	2
PROPOSED BY			
<b>Organisation</b>	Mark Hawker		
<b>Email</b>	jsmaustralia@bigpond.com		
<b>Contact Person</b>	Mark Hawker	<b>Telephone</b>	0432326163

HUMAN HEALTH & SAFETY RISKS			
<b>Potential injuries and/or diseases</b>	None		
<b>Likelihood</b>	Low	<i>HIGH</i> Frequent (more than 10 events p.a. in Australia) <i>MEDIUM</i> Occasional (1-10 events in Australia) <i>LOW</i> Not known to harm human safety and safety	
<b>Consequence</b>	Low	<i>HIGH</i> Life threatening or fatal. <i>MEDIUM</i> Requires medical treatment. <i>LOW</i> No treatment or minor first aid only.	
<b>Details &amp; References</b>	None		

RISK OF ESCAPED ANIMALS TO THE ENVIRONMENT			
<b>Potential impact of escaped animals</b>	None		
<b>Likelihood</b>	Low	<i>HIGH</i> Readily survive and reproduce in the wild. <i>MEDIUM</i> Might survive and reproduce in the wild <i>LOW</i> Would not survive and reproduce in the wild	
<b>Consequence</b>	Low	<i>HIGH</i> Impacts may be significant and widespread. <i>MEDIUM</i> Impacts may be limited or controlled. <i>LOW</i> Little or no impact.	

<b>Details &amp; References</b>	Not likely to survive if escaped.
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## RISK OF TAKE FROM THE WILD

<b>Estimated captive population in Australia</b>	None	
<b>Conservation status in the wild</b>	Least concern	
<b>Impact on wild populations</b>	Low	<p><i>HIGH Adequate supply is not available from lawful sources interstate.</i></p> <p><i>LOW Adequate supply is available from lawful sources interstate</i></p>
<b>Sources of lawful supply</b>	<p>A collect permit has been issued by NT Parks and Wildlife to bring 12 individuals into captivity for the purpose of establishing the species in captivity in Australia. The permit is valid until June 2019. I am the intended recipient of all 12 collected specimens</p>	

## WELFARE & HUSBANDRY

<b>Dietary requirements</b>	Insectivore		
<b>Housing requirements</b>	Tall enclosure to allow for climbing. Tropical conditions needed. 28-35 degrees day time temps and medium to high humidity depending on time of year, heavy sand substrate with lots of leaf littersome stone. Dry timber for climbing and some spinifex or other type of clumped grass for hiding.		
<b>Ease of breeding</b>	Not known/to be determined		
<b>Other issues</b>	None		
<b>Keeper competency</b>	Basic/expert	NONE BASIC EXPERT	<p><i>Easy to keep and handle, no specific expertise required</i></p> <p><i>Safe to keep and handle, if guidance material available</i></p> <p><i>Complex to keep and handle, high safety risks, training and/or experience required</i></p>
<b>Sources of guidance material and training</b>	Several reference books are available on Dragon lizard husbandry. In some of the more recent publications I have provided on husbandry including captive keeping of Diporiphora species		

## OTHER COMMENTS IN SUPPORT OF PROPOSED CHANGE

I will be relying on my own experience and skill in getting these individuals adapted to a captive environment. I have been successful in adapting legally obtained wild caught individuals of different species into captivity many times over my 30 odd years as a dragon keeper. I intend to publish information and data on successful adaptation of this species into captivity along with successful breeding including clutch size, gestation period, incubation period, etc. Will contribute a significant amount to knowledge bank regarding this species captive biology.

# Draft Species Risk Assessment Tool

For use in assessing proposed changes to NSW animal keeper species list

SPECIES			
<b>Common Name</b>	Lally's Two Lined Dragon		
<b>Scientific Name</b>	Diporiphora lalliae		
<b>Current Species List Class</b>	None	<b>Proposed Class</b>	2
PROPOSED BY			
<b>Organisation</b>	Mark Hawker		
<b>Email</b>	jsmaustralia@bigpond.com		
<b>Contact Person</b>	Mark Hawker	<b>Telephone</b>	0432326163

HUMAN HEALTH & SAFETY RISKS			
<b>Potential injuries and/or diseases</b>	None		
<b>Likelihood</b>	Low	<i>HIGH</i> Frequent (more than 10 events p.a. in Australia) <i>MEDIUM</i> Occasional (1-10 events in Australia) <i>LOW</i> Not known to harm human safety and safety	
<b>Consequence</b>	Low	<i>HIGH</i> Life threatening or fatal. <i>MEDIUM</i> Requires medical treatment. <i>LOW</i> No treatment or minor first aid only.	
<b>Details &amp; References</b>	None		

RISK OF ESCAPED ANIMALS TO THE ENVIRONMENT			
<b>Potential impact of escaped animals</b>	None		
<b>Likelihood</b>	Low	<i>HIGH</i> Readily survive and reproduce in the wild. <i>MEDIUM</i> Might survive and reproduce in the wild <i>LOW</i> Would not survive and reproduce in the wild	
<b>Consequence</b>	Low	<i>HIGH</i> Impacts may be significant and widespread. <i>MEDIUM</i> Impacts may be limited or controlled. <i>LOW</i> Little or no impact.	

<b>Details &amp; References</b>	Not likely to survive if escaped.
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## RISK OF TAKE FROM THE WILD

<b>Estimated captive population in Australia</b>	None	
<b>Conservation status in the wild</b>	Least concern	
<b>Impact on wild populations</b>	Low	<p><i>HIGH Adequate supply is not available from lawful sources interstate.</i></p> <p><i>LOW Adequate supply is available from lawful sources interstate</i></p>
<b>Sources of lawful supply</b>	<p>A collect permit has been issued by NT Parks and Wildlife to bring 12 individuals into captivity for the purpose of establishing the species in captivity in Australia. The permit is valid until June 2019. I am the intended recipient of all 12 collected specimens</p>	

## WELFARE & HUSBANDRY

<b>Dietary requirements</b>	Insectivore		
<b>Housing requirements</b>	Tall enclosure to allow for climbing. Dry/subtropical conditions needed. High temps, low to medium humidity depending on time of year, sand substrate with some stone. Dry timber for climbing and some spinifex or other type of clumped grass for hiding.		
<b>Ease of breeding</b>	Not known/to be determined		
<b>Other issues</b>	None		
<b>Keeper competency</b>	Basic/expert	NONE BASIC EXPERT	<p><i>Easy to keep and handle, no specific expertise required</i></p> <p><i>Safe to keep and handle, if guidance material available</i></p> <p><i>Complex to keep and handle, high safety risks, training and/or experience required</i></p>
<b>Sources of guidance material and training</b>	Several reference books are available on Dragon lizard husbandry. In some of the more recent publications I have provided information and data on husbandry including captive keeping of Diporiphora species		

## OTHER COMMENTS IN SUPPORT OF PROPOSED CHANGE

I will be relying on my own experience and skill in getting these individuals adapted to a captive environment. I have been successful in adapting legally obtained wild caught individuals of different species into captivity many times over my 30 odd years as a dragon keeper. I intend to publish information and data on successful adaptation of this species into captivity along with successful breeding including clutch size, gestation period, incubation period, etc. Will contribute a significant amount to knowledge bank regarding this species captive biology.

# Draft Species Risk Assessment Tool

For use in assessing proposed changes to NSW animal keeper species list

SPECIES			
<b>Common Name</b>	Thorny Devil		
<b>Scientific Name</b>	Moloch horridus		
<b>Current Species List Class</b>	n/a	<b>Proposed Class</b>	<b>2</b>
PROPOSED BY			
<b>Organisation</b>	Mark Hawker		
<b>Email</b>	jsmaustralia@bigpond.com		
<b>Contact Person</b>	Mark Hawker	<b>Telephone</b>	<b>0432326163</b>

## HUMAN HEALTH & SAFETY RISKS

<b>Potential injuries and/or diseases</b>	None		
<b>Likelihood</b>	Low	<i>HIGH</i> Frequent (more than 10 events p.a. in Australia) <i>MEDIUM</i> Occasional (1-10 events in Australia) <i>LOW</i> Not known to harm human safety and safety	
<b>Consequence</b>	Low	<i>HIGH</i> Life threatening or fatal. <i>MEDIUM</i> Requires medical treatment. <i>LOW</i> No treatment or minor first aid only.	
<b>Details &amp; References</b>	None		

## RISK OF ESCAPED ANIMALS TO THE ENVIRONMENT

<b>Potential impact of escaped animals</b>	None		
<b>Likelihood</b>	Low	<i>HIGH</i> Readily survive and reproduce in the wild. <i>MEDIUM</i> Might survive and reproduce in the wild <i>LOW</i> Would not survive and reproduce in the wild	
<b>Consequence</b>	Low	<i>HIGH</i> Impacts may be significant and widespread. <i>MEDIUM</i> Impacts may be limited or controlled. <i>LOW</i> Little or no impact.	

<b>Details &amp; References</b>	Not likely to survive if escaped.
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## RISK OF TAKE FROM THE WILD

<b>Estimated captive population in Australia</b>	UNKNOWN	
<b>Conservation status in the wild</b>	Least concern	
<b>Impact on wild populations</b>	Low	<p><i>HIGH Adequate supply is not available from lawful sources interstate.</i></p> <p><i>LOW Adequate supply is available from lawful sources interstate</i></p>
<b>Sources of lawful supply</b>	<p><b>This species has been bred several times in captivity in several states. Currently the major breeder is in SA. This species is readily available for supply to any keeper who can provide the right keeping requirements.</b></p>	

## WELFARE & HUSBANDRY

<b>Dietary requirements</b>	Specialist Insectivore, eats 6 to 8 species of small black ants.		
<b>Housing requirements</b>	Similar housing and keeping requirements to most small desert dragons such as <i>Ctenophorus reticulatus</i> . High temps, low humidity, sand substrate with minimal rock and spinifex clumps. Some misting occasionally for water supply. Standing water as well.		
<b>Ease of breeding</b>	Breeds readily in suitably maintained habitat		
<b>Other issues</b>			
<b>Keeper competency</b>	Expert but only as far as food sources are concerned otherwise basic	NONE BASIC EXPERT	<p><i>Easy to keep and handle, no specific expertise required</i></p> <p><i>Safe to keep and handle, if guidance material available</i></p> <p><i>Complex to keep and handle, high safety risks, training and/or experience required</i></p>
<b>Sources of guidance material and training</b>	Several published references for maintenance of captive specimens of small ground dragons.		

## **OTHER COMMENTS IN SUPPORT OF PROPOSED CHANGE**

This species has been in keepers collections in several states of Australia for well over 20 years. If the dietary problem of providing a trailing line of ants of about 2000 or so per day is resolved then this species does extremely well in captivity and breeds readily. It requires a hot and dry enclosure with a red sand substrate. Every keeper who can provide the food supply required breeds this species.

If the proposed licensee can demonstrate a safe and regular food supply is available then this species should be allowed to be kept.

# Draft Species Risk Assessment Tool

For use in assessing proposed changes to NSW animal keeper species list

SPECIES			
<b>Common Name</b>	North-west red-faced turtle		
<b>Scientific Name</b>	Emydura australis		
<b>Current Species List Class</b>	2	<b>Proposed Class</b>	1
PROPOSED BY			
<b>Organisation</b>	Macarthur Herpetological Society		
<b>Email</b>	Turtlesrus@optusnet.com.au		
<b>Contact Person</b>	Arthur Weeding	<b>Telephone</b>	0408236269

HUMAN HEALTH & SAFETY RISKS			
<b>Potential injuries and/or diseases</b>			
<b>Likelihood</b>	Low	<i>HIGH</i> Frequent (more than 10 events p.a. in Australia) <i>MEDIUM</i> Occasional (1-10 events in Australia) <i>LOW</i> Not known to harm human safety and safety	
<b>Consequence</b>	Low	<i>HIGH</i> Life threatening or fatal. <i>MEDIUM</i> Requires medical treatment. <i>LOW</i> No treatment or minor first aid only.	
<b>Details &amp; References</b>	If a person gets bitten by a turtle you would not need any medical attention		

RISK OF ESCAPED ANIMALS TO THE ENVIRONMENT			
<b>Potential impact of escaped animals</b>			
<b>Likelihood</b>	Low	<i>HIGH</i> Readily survive and reproduce in the wild. <i>MEDIUM</i> Might survive and reproduce in the wild <i>LOW</i> Would not survive and reproduce in the wild	
<b>Consequence</b>	Low	<i>HIGH</i> Impacts may be significant and widespread. <i>MEDIUM</i> Impacts may be limited or controlled. <i>LOW</i> Little or no impact.	

<b>Details &amp; References</b>	No Risk
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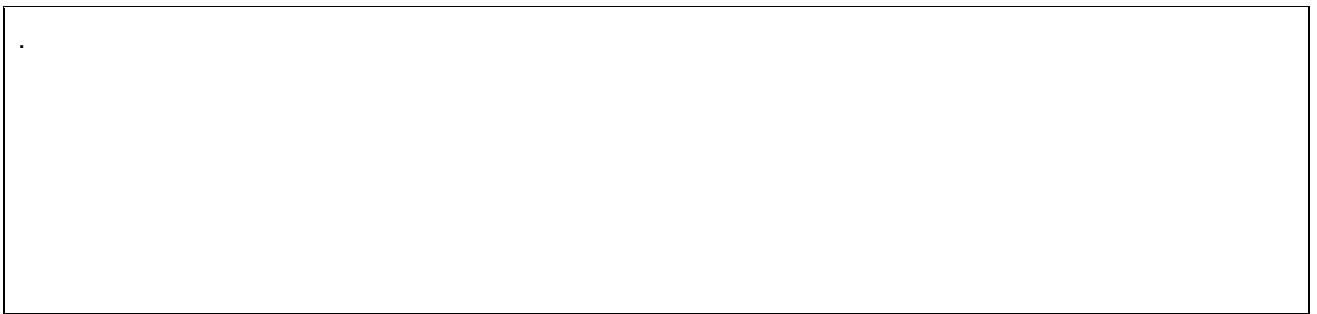
## RISK OF TAKE FROM THE WILD

<b>Estimated captive population in Australia</b>	300 in NSW, more in other states	
<b>Conservation status in the wild</b>	Least Concern	
<b>Impact on wild populations</b>	Low	<p><i>HIGH Adequate supply is not available from lawful sources interstate.</i></p> <p><i>LOW Adequate supply is available from lawful sources interstate</i></p>
<b>Sources of lawful supply</b>	<b>Good numbers in NSW and other states</b>	

## WELFARE & HUSBANDRY

<b>Dietary requirements</b>	Insects, crickets, woodies, gambusia, live weed, pellets, frozen turtle foods		
<b>Housing requirements</b>	Kept in warm water the same as other turtles		
<b>Ease of breeding</b>	Easy in captivity		
<b>Other issues</b>	Heated water		
<b>Keeper competency</b>	Basic	NONE BASIC EXPERT	<p><i>Easy to keep and handle, no specific expertise required</i></p> <p><i>Safe to keep and handle, if guidance material available</i></p> <p><i>Complex to keep and handle, high safety risks, training and/or experience required</i></p>
<b>Sources of guidance material and training</b>	Good books available online. Reptile groups.		

## OTHER COMMENTS IN SUPPORT OF PROPOSED CHANGE



# Draft Species Risk Assessment Tool

For use in assessing proposed changes to NSW animal keeper species list

SPECIES			
<b>Common Name</b>	Northern Yellow-faced Turtle		
<b>Scientific Name</b>	Emydura tanybaraga		
<b>Current Species List Class</b>	2	<b>Proposed Class</b>	1
PROPOSED BY			
<b>Organisation</b>	Macarthur Herpetological Society		
<b>Email</b>	turtlesrus@optusnet.com.au		
<b>Contact Person</b>	Arthur Weeding	<b>Telephone</b>	0408236269

HUMAN HEALTH & SAFETY RISKS			
<b>Potential injuries and/or diseases</b>			
<b>Likelihood</b>	Low	<i>HIGH</i> Frequent (more than 10 events p.a. in Australia) <i>MEDIUM</i> Occasional (1-10 events in Australia) <i>LOW</i> Not known to harm human safety and safety	
<b>Consequence</b>	Low	<i>HIGH</i> Life threatening or fatal. <i>MEDIUM</i> Requires medical treatment. <i>LOW</i> No treatment or minor first aid only.	
<b>Details &amp; References</b>	If a person gets bitten by a turtle, you would not need any medical attention.		

RISK OF ESCAPED ANIMALS TO THE ENVIRONMENT			
<b>Potential impact of escaped animals</b>			
<b>Likelihood</b>	Low	<i>HIGH</i> Readily survive and reproduce in the wild. <i>MEDIUM</i> Might survive and reproduce in the wild <i>LOW</i> Would not survive and reproduce in the wild	
<b>Consequence</b>	Low	<i>HIGH</i> Impacts may be significant and widespread. <i>MEDIUM</i> Impacts may be limited or controlled. <i>LOW</i> Little or no impact.	

<b>Details &amp; References</b>	No risk
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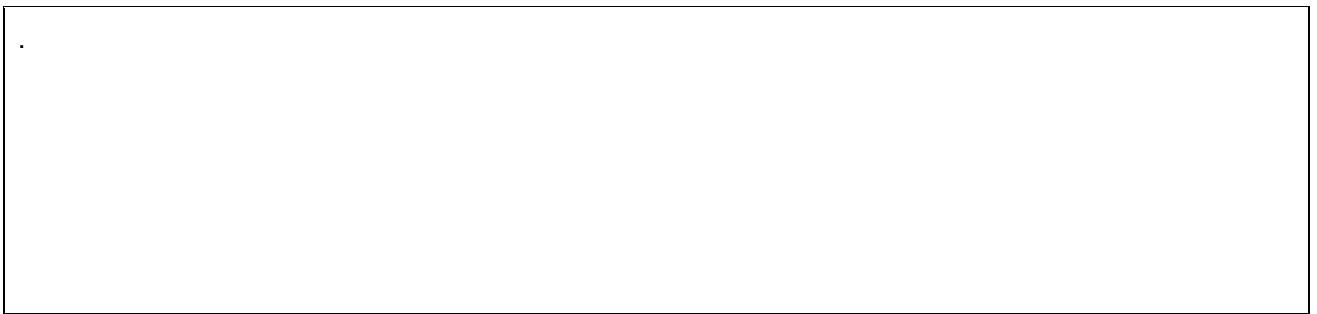
## RISK OF TAKE FROM THE WILD

<b>Estimated captive population in Australia</b>	300 in NSW, more in other states	
<b>Conservation status in the wild</b>	Least Concern	
<b>Impact on wild populations</b>	Low	<p><i>HIGH Adequate supply is not available from lawful sources interstate.</i></p> <p><i>LOW Adequate supply is available from lawful sources interstate</i></p>
<b>Sources of lawful supply</b>	<b>Good numbers in NSW and other states</b>	

## WELFARE & HUSBANDRY

<b>Dietary requirements</b>	Insects, gambusia, crickets, woodies, live weed, pellets, frozen turtle foods		
<b>Housing requirements</b>	Kept the same as other turtles in warm water		
<b>Ease of breeding</b>	Easy in captivity		
<b>Other issues</b>	Heated water		
<b>Keeper competency</b>	Basic	NONE BASIC EXPERT	<p><i>Easy to keep and handle, no specific expertise required</i></p> <p><i>Safe to keep and handle, if guidance material available</i></p> <p><i>Complex to keep and handle, high safety risks, training and/or experience required</i></p>
<b>Sources of guidance material and training</b>	Good books available online. Reptile groups.		

## OTHER COMMENTS IN SUPPORT OF PROPOSED CHANGE



# Draft Species Risk Assessment Tool

For use in assessing proposed changes to NSW animal keeper species list

SPECIES			
<b>Common Name</b>	Painted Short-necked Turtle		
<b>Scientific Name</b>	Emydura subglobosa (two subspecies, worrelli and subglobosa)		
<b>Current Species List Class</b>	2	Proposed Class	1
PROPOSED BY			
<b>Organisation</b>	Macarthur Herpetological Society		
<b>Email</b>	turtlesrus@optusnet.com.au		
<b>Contact Person</b>	Arthur Weeding	Telephone	0408236269

HUMAN HEALTH & SAFETY RISKS			
<b>Potential injuries and/or diseases</b>			
<b>Likelihood</b>	Low	HIGH Frequent (more than 10 events p.a. in Australia) MEDIUM Occasional (1-10 events in Australia) LOW Not known to harm human safety and safety	
<b>Consequence</b>	Low	HIGH Life threatening or fatal. MEDIUM Requires medical treatment. LOW No treatment or minor first aid only.	
<b>Details &amp; References</b>	If a person gets bitten by a turtle, you would not need any medical attention.		

RISK OF ESCAPED ANIMALS TO THE ENVIRONMENT			
<b>Potential impact of escaped animals</b>			
<b>Likelihood</b>	Low	HIGH Readily survive and reproduce in the wild. MEDIUM Might survive and reproduce in the wild LOW Would not survive and reproduce in the wild	
<b>Consequence</b>	Low	HIGH Impacts may be significant and widespread. MEDIUM Impacts may be limited or controlled. LOW Little or no impact.	

<b>Details &amp; References</b>	No risk
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## RISK OF TAKE FROM THE WILD

<b>Estimated captive population in Australia</b>	300 in NSW, more in other states	
<b>Conservation status in the wild</b>	Least concern (for the subspecies worrelli); Least concern outside of Australia (for the subspecies subglobosa in New Guinea), but Vulnerable in Qld (subspecies subglobosa) – the latter is restricted to the Jardine River catchment in Cape York within Australia.	
<b>Impact on wild populations</b>	Low	<p><i>HIGH Adequate supply is not available from lawful sources interstate.</i></p> <p><i>LOW Adequate supply is available from lawful sources interstate</i></p>
<b>Sources of lawful supply</b>	<b>Good numbers in NSW and other states.</b>	

## WELFARE & HUSBANDRY

<b>Dietary requirements</b>	Insects, crickets, woodies, gambusia, live weed, frozen turtle food, pellets.		
<b>Housing requirements</b>	Kept the same as other turtles in heated water.		
<b>Ease of breeding</b>	Easy in captivity.		
<b>Other issues</b>	Heated water		
<b>Keeper competency</b>	Basic	NONE BASIC EXPERT	<p><i>Easy to keep and handle, no specific expertise required</i></p> <p><i>Safe to keep and handle, if guidance material available</i></p> <p><i>Complex to keep and handle, high safety risks, training and/or experience required</i></p>
<b>Sources of guidance material and training</b>	Good books available online. Reptile groups.		

## OTHER COMMENTS IN SUPPORT OF PROPOSED CHANGE

