

# Changes from the WA Checklist 2014 (updated April 2015)

## Reptiles and frogs

(compiled by P. Doughty, R. Ellis and R. Bray)

**Revision of species boundaries in *Uperoleia*.** A summary paper of recent genetic work on *Uperoleia* toadlets redrew several species' ranges. One result was the discovery that *U. inundata* occurs widely in the Kimberley, but is difficult to distinguish from *U. crassa* and *U. borealis*. This species is now added to the WA frog checklist.

Catullo, R.A. and Keogh, J.S. (2014). Aridification drove repeated episodes of diversification between Australian biomes: Evidence from a multi-locus phylogeny of Australian toadlets (*Uperoleia*: Myobatrachidae). *Molecular Phylogenetics and Evolution* **79**: 106–117.

**Revision of the *Diplodactylus conspicillatus* species complex.** Oliver *et al.* (2014) undertook an analysis of this widely-distributed 'species' across the Australian arid zone and monsoonal tropics. Using molecular and morphological data, they found evidence for seven species-level lineages. Four species occur in WA: *D. conspicillatus*, *D. laevis* (resurrected from synonymy and widely sympatric with *D. conspicillatus*), *D. bilybara* sp. nov. (western Pilbara and Carnarvon regions) and *D. custos* sp. nov. (Kimberley).

Oliver, P.M., Couper, P.J. and 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.

**New species of *Oedura* from the Kimberley.** A distinctive new species of *Oedura*, *O. murramanu*, was discovered from the Oscar Ranges in the Kimberley. It is most similar to *O. filicipoda* but differs in tail shape and other characters and occurs 150 km to the south of that species.

Oliver, P.M., Laver, R.J., Melville, J. and Doughty, P. (2014). A new species of Velvet Gecko (*Oedura*: Diplodactylidae) from the limestone ranges of the southern Kimberley, Western Australia. *Zootaxa* **3873**: 49–61.

**Revision of arid zone *Gehyra*.** A new species of WA *Gehyra* gecko was described from the central ranges region, *G. pulingka* by the herpetology group at the SA Museum –Hutchinson *et al.* (2014). In addition, two other new species were described from this region (*G. moritzi*, *G. versicolor*), but do not occur in WA. *Gehyra moritzi* occurs in the central ranges of the NT, and *G. versicolor* is the name for eastern *G. 'variegata'*. In addition, *G. montium* was found widely throughout the Pilbara and arid southwestern regions, despite being regarded as a central range endemic since its description.

Hutchinson, M.N., Sistrom, M.J., Donnellan, S.C. and 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**: 221–241.

**Description of a new species of pygopod.** Maryan *et al.* (2015) carried out a morphological and molecular study of *Delma australis* from Western and South Australia. They found the

southern coastal populations to be distinct and named it as a new species – *Delma hebesa*.

Maryan, B., Brennan, I.G., Adams, M. and Aplin, K.P. (2015). Molecular and morphological assessment of *Delma australis* Kluge (Squamata: Pygopodidae), with a description of a new species from the biodiversity ‘hotspot’ of southwestern Western Australia. *Zootaxa* **3946**: 301–330.

**Proposed changes to *Ctenotus inornatus* species-group taxonomy.** Rabosky *et al.* (2014) carried out an extensive genetic study of this group. They found colour patterns, the traditional method to delineate species pioneered by Glen Storr, matched poorly to genetic lineages across Australia. Rabosky *et al.* synonymized the following taxa into *C. inornatus*: *C. brachyonyx*, *C. fallens*, *C. helenae*, *C. saxatilis* and *C. severus*. They also synonymized *C. borealis* with *C. robustus*, which occurs widely in the Kimberley and Pilbara regions. In addition, they proposed a new species, *C. superciliaris*, for populations in the Pilbara, Kimberley and extending in to the Northern Territory.

The WAM herpetology section aims to implement these changes, but sorting through the 5300 specimens in the species-group will be an on-going work. Therefore, we will recognize *C. superciliaris* and attendant changes once the specimens have been sorted and our database updated. This also follows other museums and the Reptile Database in taking time to implement the sweeping changes.

Rabosky, D.L., Hutchinson, M.N., Donnellan, S.C., Talaba, A.L. and Lovette, I.J. (2014). Phylogenetic disassembly of species boundaries in a widespread group of Australian skinks (Scincidae: *Ctenotus*). *Molecular Phylogenetics and Evolution* **77**: 71–82.

**Description of a new *Varanus* species.** Doughty *et al.* (2014) recently examined morphological and molecular variation in the goanna *V. breviceuda*. They found evidence for a new species from the Dampier Peninsula in the Kimberley: *V. sparnus*. This is the smallest species of goanna known.

Doughty, P., Kealley, L., Fitch, A. and Donnellan, S.C. (2014). A new diminutive species of *Varanus* from the Dampier Peninsula, western Kimberley region, Western Australia. *Records of the Western Australian Museum* **29**: 128–140.

**Elevation of water pythons to full species.** We follow the recent review of python taxonomy by Barker *et al.* (2015) to recognize *Liasis fuscus* as a full species, rather than a subspecies of *L. mackloti* Dumeril & Bibroni, 1844.

Barker, D.G., Barker, T.M., Davis, M.A. and Schuett, G.W. (2015). A review of the systematics and taxonomy of Pythonidae: an ancient serpent lineage. *Zoological Journal of the Linnean Society*: early on-line view, 12 April 2015.

**Change to Keelback listing.** The name *Tropidonophis mairii* Gray, 1841 is recognized, with no subspecies recognized. The older authority given of ‘Jan, 1863’ was incorrect.

## **Mammals**

**(compiled by R. Bray and R. Ellis)**

A comprehensive revision of the mammals of Western Australia will be carried out in next checklist following the arrival of a new Mammology Curator.

**Revision of the Australian bat species within the genus *Mormopterus*.** One species in WA was raised from synonymy with *M. planiceps*: *M. petersi*; *M. cobourgianus* was raised to full species status and two new species were described: *M. kitcheneri* and *M. lumsdenae*. Of the three species formerly recognised in WA, *M. planiceps* was redescribed and restricted to south-east Australia (not in WA) and *M. beccarii*, and *M. loriae* no longer occur in Australia.

Reardon, T.B., McKenzie, N.L., Cooper, S.J.B., Appleton, B., Carthew, S. and Adams, M. (2014). A molecular and morphological investigation of species boundaries and phylogenetic relationships in Australian free-tailed bats *Mormopterus* (Chiroptera: Molossidae). *Australian Journal of Zoology* **62**: 109–136.

***Pseudomys laborifex* included as junior synonym of *P. johnsoni*.** We following Kerle and Ford (2008) in including *P. laborifex* as a junior synonym of *P. johnsoni*, due to limited genetic divergence.

Kerle, J. A. & Ford, F. (2008). Central Pebble-mouse, *Pseudomys johnsoni*. In: S. Van Dyck and R. Strahan (eds), *The mammals of Australia. Third Edition*, pp. 639-640. Reed New Holland, Sydney, New South Wales, Australia.

**Recognition of Bat Family *Miniopteridae*.** The family *Miniopteridae* was considered a subfamily of *Vespertilionidae* until a review of the evidence in 2007 confirmed support for the group at Family level. This has been supported by further genetic studies.

Miller-Butterworth, C.M., Murphy, W.J., O'Brien, S.J., Jacobs, D.S., Springer, M.S. & Teeling, E.C. (2007). A family matter: Conclusive resolution of the taxonomic position of the long-fingered bats, *Miniopterus*. *Molecular Biology and Evolution* **24**:1553–1561.

**Revision of Australian bat species within genus *Myotis*.** Populations previously identified as *M. moluccarum* have been identified as *M. macropus*, with *M. moluccarum* no longer occurring in Australia.

Cooper, S.J.B., Day, P.R., Reardon, T.B. & Schulz, M. (2001). Assessment of species boundaries in Australian *Myotis* (Chiroptera: Vespertilionidae) using mitochondrial DNA. *Journal of Mammology* **82**(2): 328-338.

**Revision of the bat species *Nyctophilus major*.** *N. major major* was redescribed and restricted to southern Australia from the southwest corner, east to Eyre Peninsula of South Australia and one new WA subspecies was described: *N. m. tor*.

Parnaby, H.E. (2009). A taxonomic review of Australian Greater Long-eared Bats previously known as *Nyctophilus timorensis* (Chiroptera: Vespertilionidae) and some associated taxa. *Australian Zoologist* **35**(1):39-81.

**First record of Omura's whale (*Balaenoptera omurai*) in Western Australia.** The juvenile female specimen washed ashore on Exmouth Beach in March 2015. This is the first record of this species in Western Australia. The identification has been confirmed using DNA.

**Change to fin whale listing.** Western Australian population of fin whales (*Balaenoptera physalus*) are listed under the subspecies *B. p. quoyi* (Fischer, 1829). Recent molecular research supports this.

Archer, F.I., Morin, P.A., Hancock-Hanser, B.L., Robertson, K.M., Leslie, M.S., et al. (2013). Mitogenomic Phylogenetics of Fin Whales (*Balaenoptera physalus* spp.): Genetic Evidence for Revision of Subspecies. *PLoS ONE* **8**(5): e63396.

**Change to fur seal listing.** A comprehensive review by Berta and Churchill (2012) has revised the taxonomy of fur seals. The genus *Arctocephalus* is limited to *A. pusillus* based on paraphyly, and the genus *Arctophoca* (Peters, 1866) is resurrected for the remaining taxa, including *A. tropicalis*. Based on molecular and morphological research *Arctophoca forsteri* is placed as a subspecies of *A. australis*.

Berta, A. & Churchill, M. (2012). Pinniped taxonomy: review of currently recognized species and subspecies, and evidence used for their description. *Mammal Review* **42**(3): 207-234.

**Updated description of the Australian dingo.** Crowther *et al.* examined morphological data of type *Canis dingo* and provide an updated description supporting resurrection of the species from synonymy of *C. lupus*.

Crowther, M.S., Fillios, M., Cvolman, N. and Letnic, M. (2014). An updated description of the Australian dingo (*Canis dingo* Meyer, 1793). *Journal of Zoology* **293**(3): 192–203.

## **Checklist of the Birds of Western Australia**

**(compiled by R.E. Johnstone and J.C. Darnell)**

The area covered by this Western Australian Checklist includes the seas and islands of the adjacent continental shelf, including Ashmore Reef. Separate Checklists are being prepared for Christmas and Cocos Keeling Islands. Criterion for inclusion of a species or subspecies on the list is, in most cases, supported by tangible evidence i.e. a museum specimen, an archived or published photograph or detailed description, video tape or sound recording. Where there is doubt on the identification of a subspecies it is included in square brackets.

Amendments to the previous Checklist (2013) have been carried out with reference to both global and regional publications/checklists. The prime reference material for global coverage has been the International Ornithological Committee (IOC) World Bird List, *The Clements Checklist of Birds of the World*, the *Illustrated Checklist of the Birds of the World* Volume 1 (Lynx Edicions, Barcelona), A Checklist of the Birds of Britain, 8<sup>th</sup> edition, the Checklist of North American Birds and, for regional coverage, *Zoological Catalogue of Australia* volume 37.2 (Columbidae to Coraciidae), *The Directory of Australian Birds*, Passerines and the Working List of Australian Birds (Birdlife Australia).

The advent of molecular investigation into avian taxonomy has required, and still requires, extensive and ongoing revision at all levels – family, generic and specific. This revision to the

'Checklist of the Birds of Western Australia' is a collation of the most recent information/research emanating from such studies, together with the inclusion of newly recorded species.

As a result of the constant stream of publication of new research in many scientific journals, delays of its incorporation into the prime sources listed above, together with the fact that these are upgraded /re-issued at differing intervals and that their authors may hold varying opinions, these prime references, do on occasion differ. Where considered appropriate these latest research findings have been included as has some pre-published material in order to make this Checklist as up to date as possible.

From these comments it can be seen that avian taxonomy is a 'work in progress' and that it is currently a long way from having a definitive world list. Overall, departures from the prime reference material in both global and regional lists (as above) have been minimised. Subject to the general consensus/opinion of other authors, the IOC comments have been accepted relating to the higher taxonomic levels and taxonomic status beyond Australia, but not where the Western Australian Museum collection material, distributional data base etc. shows otherwise.

Changes should only come when there is certainty and consensus and the Western Australian Museum's objective is to maintain the status quo until claimed revisions have been thoroughly analysed and accepted.

A further element in this current revision to the 'Checklist of the Birds of Western Australia' is the significant number of additional species contained/recorded. Increased public interest in ornithology combined with improved identification knowledge, the increasing number of "bird watchers" having high-technology photographic equipment, and more extensive field excursions (often to remote areas e.g. Ashmore Reef) all have contributed here. Whether all of these newly recorded species are in fact migratory "strays" which have been missed earlier, or whether other factors such as habitat destruction (along migratory routes) or climatic change is involved is of course unknown.

This list differs from previous lists in that it provides a brief synopsis on current changes, details of and review of subspecies recognised and a statement on distribution (generally on a regional level i.e. Kimberley, Pilbara, Gascoyne, South-west). These comments are based largely on the collections of the Western Australian Museum and an extensive data bank of over two million records covering distribution, ecological status, relative abundance, habitat preferences, breeding season, movements, taxonomic, clinal variation and hybrid zones. Where necessary, reasons for departing from the current above-named checklists (IOC, Birds Australia etc.) are also given.

The aim of this checklist is to summarise all available data on systematics and taxonomy, provide brief explanations for changes, incorporate new higher level classifications and recent new generic, specific and subspecific changes.

### **Changes from the 2013 checklist**

Emu *Dromaius novaehollandiae* formerly in Casuariidae now in Dromaiidae.

Magpie Goose formerly in Anatidae now in monotypic family Anseranatidae.

King Quail formerly in *Coturnix* now in *Excalfactoria*.

Amsterdam Albatross *Diomedea exulans amsterdamensis* and Tristan Albatross *Diomedea exulans dabbenena*, no positive records for Western Australia, but tracking of birds from breeding islands shows that these subspecies stray into southern Western Australian seas.

Northern Royal Albatross *Diomedea sanfordi*. No positive records for Western Australia, but tracking of birds from breeding islands shows that this species strays into southern Western Australian seas.

Black-browed Albatross *Thalassarche melanophris*, Shy Albatross *Thalassarche cauta*, Grey-headed Albatross *Thalassarche chrysostoma* and Yellow-nosed Albatross *Thalassarche chlororhynchos* formerly in *Diomedea*.

Salvin's Albatross *Thalassarche salvini* formerly treated as a subspecies of *T. cauta*.

Herald Petrel *Pterodroma heraldica* previously considered conspecific with *P. arminjoniana* with apparent hybridisation on Round Island.

Grey-backed Storm Petrel *Garrodia nereis*, White-faced Storm Petrel *Pelagodroma marina* and Black-bellied Storm Petrel *Fregetta tropica* all formerly in *Oceanites*.

Nankeen Night Heron *Nycticorax caledonicus australasiae* formerly *N. c. hilli* but *australasiae* has priority.

Striated Heron *Butorides striata* specific epithet is *striata* not *striatus*.

Eastern Great Egret *Ardea modesta* formerly treated as a subspecies of *A. alba*.

Abbott's Booby *Papasula abbotti* previously placed in genus *Sula*.

Australasian Darter *Anhinga novaehollandiae* previously considered conspecific with *A. melanogaster* of Asia and *A. rufa* of Africa.

Little Eagle *Hieraaetus morphnoides* formerly in genus *Aquila*.

Lewin's Rail *Lewinia pectoralis* formerly in genus *Rallus*.

Bush-hen *Amaurornis moluccana* formerly considered conspecific with *A. olivaceus*.

Black-tailed Native-hen *Tribonyx ventralis* formerly in genus *Gallinula*.

Beach Stone-curlew *Esacus magnirostris* formerly *E. neglectus* but apparently *magnirostris* is the valid species epithet if placed in this genus.

Hooded Plover *Thinornis cucullatus* previously listed in genus *Charadrius* and apparently the species epithet *cucullatus* is the oldest available name for this taxon.

Black-fronted Dotterel *Elseyornis melanops* formerly in genus *Charadrius*.

Comb-crested Jacana *Irediparra gallinacea* formerly in genus *Metopidius*.

South Polar Skua *Stercorarius maccormicki* and Brown Skua *Stercorarius antarcticus* formerly in genus *Catharacta*.

Spinifex Pigeon *Geophaps plumifera* for treating various populations as polytopic subspecies see Johnstone 1981, *Rec. West. Aust. Mus.* **9**: 49–64.

Pacific Koel *Eudynamis orientalis* previously considered conspecific with the Western Koel *E. scolopaceus* of Asia.

Oriental Cuckoo *Cuculus optatus* previously considered a subspecies of *C. saturatus*.

Eastern Grass Owl *Tyto longimembris* previously considered conspecific with *T. capensis* of Africa.

Boobook Owl *Ninox boobook* previously treated as conspecific with *N. novaeseelandiae* of New Zealand.

Northern Boobook *Ninox japonica* previously considered conspecific with the Brown Hawk-Owl *N. scutulata*.

Azure Kingfisher *Ceyx azureus* formerly placed in genus *Alcedo*.

Rainbow Lorikeet *Trichoglossus moluccanus* and Red-collared Lorikeet *T. rubritorquis* previously treated as conspecific and included within the widespread *T. haematodus* complex.

Purple-crowned Lorikeet *Parvipsitta porphyrocephala* formerly in genus *Glossopsitta*.  
Naretha Blue Bonnet *Platycercus narethae* formerly treated as a subspecies of Blue Bonnet *Platycercus haematogaster* (see Dolman and Joseph 2015).  
Tawny-crowned Honeyeater *Glyciphila melanops* formerly in genus *Phylidonyris*.  
Shy Groundwren *Calamanthus cautus* formerly in genus *Hylacola*.  
Western Chestnut Quail-thrush *Cinclosoma clarum* formerly treated as a subspecies of *C. castanotum* (see Dolman and Joseph 2015).  
Silver-backed Butcherbird *Cracticus argenteus* formerly treated as a subspecies of *C. torquatus*.  
Crested Bellbird *Oreoica gutturalis* formerly in family Pachycephalidae now in Oreoicidae.  
Western Golden Whistler *Pachycephala occidentalis* formerly *Pachycephala pectoralis fuliginosa* (see Joseph *et al.* 2014).  
Australasian Figbird *Sphecotheres vieilloti* formerly considered a subspecies of *S. viridis*.  
Grey Fantail *Rhipidura albiscapa* formerly considered a subspecies of the New Zealand Fantail *R. fuliginosa*.  
Buff-sided Robin *Poecilodryas cerviniventris* formerly considered a subspecies of White-browed Robin *P. superciliosa*.  
Hooded Robin *Melanodryas cucullata* formerly in the genus *Petroica*.  
Scarlet Robin *Petroica boodang* previously treated as a subspecies of Pacific Robin *Petroica multicolor*.  
Red-rumped Swallow *Cecropis daurica*, Fairy Martin *Petrochelidon ariel* and Tree Martin *Petrochelidon nigricans* formerly in the genus *Hirundo*.  
Rufous Songlark *Megalurus mathewsi* and Brown Songlark *Megalurus cruralis* formerly in the genus *Cincloramphus*.  
Grey-breasted White-eye *Zosterops lateralis chloronotus* formerly *Z. l. gouldi* but apparently *chloronotus* has priority.  
Blue and White Flycatcher *Cyanoptila cyanomelana* formerly in the genus *Ficedula*.

#### **Vagrants added to State List**

Great Shearwater *Puffinus gravis*  
Heinroth's Shearwater *Puffinus heinrothi*  
Little Grebe *Tachybaptus ruficollis*  
Red-billed Tropicbird *Phaethon aethereus*  
Javan Pond Heron *Ardeola speciosa*  
Purple Heron *Ardea purpurea*  
Chinese Sparrowhawk *Accipiter soloensis*  
Japanese Sparrowhawk *Accipiter gularis*  
Watercock *Gallicrex cinerea*  
Red Phalarope *Phalaropus fulicarius*  
Black-headed Gull *Larus ridibundus sibiricus*  
Lesser Coucal *Centropus bengalensis*  
Oriental Scops Owl *Otus sunia*  
Forest Kingfisher *Todiramphus macleayii*  
Eurasian Hoopoe *Upupa epops*

Indian Ringnecked Parrot *Psittacula krameri*  
Dusky Honeyeater *Myzomela obscura*  
Brown Shrike *Lanius cristatus cristatus* and *L. c. lucionensis*  
Asian Stubtail *Urosphena squameiceps*  
Willow Warbler *Phylloscopus trochilus*  
Kamchatka Leaf-Warbler *Phylloscopus examinandus*  
Eastern Crowned Warbler *Phylloscopus coronatus*  
Pallas's Grasshopper Warbler *Locustella certhiola*  
Ashy-bellied White-eye *Zosterops citrinella*  
Chestnut-cheeked Starling *Agropsar philippensis*  
Rosy Starling *Pastor roseus*  
Siberian Thrush *Geokichla sibirica*  
Asian Brown Flycatcher *Muscicapa latirostris*  
Siberian Blue Robin *Larvivora cyane*  
Eyebrowed Thrush *Turdus obscurus*  
Blue Rock Thrush *Monticola solitarius*  
Yellow Wagtail *Motacilla flava plexa*  
White Wagtail *Motacilla alba lugens* and *M. a. leucopsis*