



The Condamine earless dragon is about 5.5 centimetres from snout to vent, with a tail of equivalent length. Photo: Robert Ashdown

The Diverting History of an Earless Dragon

Naturalist **Rod Hobson** celebrates a long-overlooked lizard and its supporters.

Until recently the native grasslands of the eastern Darling Downs were of little interest to the herpetological community. Their reputation was of brown snakes and farmers in big hats driving utes with hay bales and blue heelers. You merely passed through the Darling Downs for richer pickings in the brigalow and mulga lands and other places further west.

A dragon is found

That all changed in 2001. Students from the University of Queensland's Gatton campus were doing research on house mice when they found a small dragon lizard near the tiny settlement of Bongeen. Its identification by the Queensland Museum as the grassland earless dragon (*Tympanocryptis pinguicollis*) set herpetologists buzzing. This was one of Australia's rarest species. It was thought to be extinct on the Darling Downs (and therefore in Queensland), for it hadn't been reported there since its discovery in 1979 by amateur herpetologist Terry Adams.

The students found the dragon in a cotton crop on Dennis and Rose Wooldridge's property Kunari, in the same area as Terry's original discovery. Enquiries revealed that many local landowners were familiar with the lizard, calling it either the frog-head (a name that seems to be peculiar to this species) or carnie (a popular name in western Queensland for any small dragon).

An identity is resolved

After 22 lost years the existence of the dragon was no longer in doubt, but the same could not be said for its identity.

At the time of its rediscovery the lizard was believed to be a distant *T. pinguicollis* population, isolated from other populations in southern New South Wales, the Australian Capital Territory and Victoria. These southern lizards are in perilous decline because less than 1% of their grassland habitats survive. The Victorian population is probably extinct, with the last confirmed record a 1967 road-killed specimen from west of Melbourne. ►



The Condamine earless dragon has a future thanks to the commitment of the local community, including farmers whose crops are inhabited by the dragon. Photos: Robert Ashdown



Time for chasing mates. The throat colour indicates it is breeding season, and the red that this is probably a male. Photo: Robert Ashdown



As many had suspected, the Darling Downs dragon is a new species.

The five-clawed worm-skink (*Anomalopus mackayi*) is another threatened denizen of the Darling Downs, due mainly to land clearing. Photo: Robert Ashdown

But genetic work by Jane Melville of the Victorian Museum and others published in 2007 revealed that something like 5.5 million years separates the Darling Downs dragon from *T. pinguicollis*, and that it was likely to be instead a population of the widespread Eyrean earless dragon (*T. tetraporophora*) of central Australia.

Further work comparing the genes of various populations of Eyrean earless dragons has, however, revealed a tangle of identities. As many had suspected, the Darling Downs dragon is a new species. Last year, 13 years after its rediscovery, in a paper by Melville and others it was described and named as *Tympanocryptis condaminensis*.

The species name reflects its habitat – the black, cracking clay soils of the Condamine River floodplain of the eastern Darling Downs. The genus name *Tympanocryptis* means ‘hidden ear’ and refers to the fact that the ears (tympanum) of earless dragons are hidden by scales, making them look ‘earless’.

With a tiny range and limited, highly fragmented habitat, the Condamine earless dragon is regarded as endangered under state and federal laws.

The genetic work also revealed two other new species previously identified as Eyrean earless dragons. These are the five-lined earless dragon (*T. pentalineata*), known from just one location 50 kilometres from Normanton in far northern Queensland, and the Roma earless dragon (*T. wilsoni*), from grasslands near Roma. None of the four species can be easily distinguished from each other by their features, but they are genetically different.

This brings to 11 the described species of *Tympanocryptis*, all Australian. The number is likely to keep growing for there are several ‘problem’ species groups yet to be resolved.

Champions are gained

That this dragon finally got a scientific name and description is thanks in large part to the initiative, cooperation and goodwill of three local families with the lizard on their properties – Dennis and Rose Wooldridge, Peter and Paula Halford and Wayne and Jo Saal – and the Pittsworth District Landcare Association. With help from the local community, the landcare group has embarked on numerous projects to raise funds for research

and conservation of the dragon and other Darling Downs reptiles. The sale of tea towels, caps, shirts, calendars and other paraphernalia featuring the dragon and other reptiles, as well as the sale of chocolate earless dragons out of a business in Mt Tyson (the most successful fund-raiser of all), have funded several research projects by the University of Queensland and the recent work by Museum Victoria, supplemented by a generous donation from the Wettenthal Foundation.

It has been truly heartening to see the steadfast community support since 2001 for this little reptile, one of the less charismatic of the Australian fauna.

Mysteries remain

The Condamine earless dragon is not an easy lizard to get to know, and its habits mostly remain mysterious.

Searches by universities, museums, government agencies, non-government organisations, landcare groups, school children, herpetologists professional and amateur, and sundry other interested parties have found the dragon in several more locations from as far east as the Aubigny/Purrawunda area almost on the western outskirts of the city of Toowoomba, west to Dalby, north to the Pirinuan/Jimbou area, and south to the Clifton area. Consistent with its scientific name it has been found only on the black cracking clays of the Condamine floodplain.

Like other earless dragons, it stays on the ground. The only other dragon lizard known from the Condamine floodplain, the much larger eastern bearded dragon, is partly arboreal, perching on fence posts and tree trunks. A third dragon on the eastern Darling Downs, the tomy roundhead, is confined to low, often rocky, sparsely treed hillocks.

Unlike some reptiles, the Condamine earless dragon does not hunt in the cracks of clay soils, but it does not hesitate to dart down into them when close-pressed by predators or herpetologists. Another of its escape strategies is to run off into dry grasses or sorghum stubble and crouch motionless, blending into the background.

The dragon is quite at home in crops, having been found in cotton, sorghum, wheat, maize, chick pea and sunflowers, as well as in adjoining exotic and native grasslands. Where cultivation

is intense it also needs headlands and roadside verges of native or exotic grasses. It particularly likes foraging in stubble fields, and seems to have benefited greatly from no-till farming. This retained crop stubble provides cover as well as fostering a healthy population of invertebrates. But many areas that seem perfect for the lizard don't appear to have any. Little is known about its diet but it has been observed eating ‘small black ants’.

The dragon is preyed on by cats and foxes, as well as by brown falcons and nankeen kestrels. The roof of a grain silo at Bongeen was littered in earless dragon remains discarded by a resident pair of kestrels. Australian magpies and pied butcherbirds have also been seen eating it.

Breeding appears to be a late spring into summer affair. The dragons become particularly active then and many display breeding colours. While there is still some debate, it appears that those with brick red throats and undersides are males and those with canary yellow in these places are females. The breeding colours of many other earless dragons are unresolved.

A female Condamine earless dragon killed during cotton chipping operations near Clifton in 2010 held six well developed eggs in her oviducts, suggesting a clutch size similar to that of other earless dragons.

One peculiarity of the earless dragon is that it can vocalise. This is well known in geckoes and flap-footed lizards but rare in other Australian lizards. *Tympanocryptis lineata* has been heard to give a high pitched squeak when one was confronted by another species of dragon, and a fellow researcher and I have twice heard a similar squeak when a Condamine earless dragon was handled.

Other Darling Downs inhabitants are also special

The grasslands of the eastern Darling Downs can appear devoid of wildlife. But take time to fossick around the grass tussocks, drive the roads on a hot night after rain, or poke down the maze of cracks, and a parade of small, cryptic and special creatures will reward the curious. Rarities apart from the dragon include the five-clawed worm-skink and grey snake, both listed as endangered under state laws. Other reptiles of interest include the olive delma, Dwyer's snake and myall snake. Eastern brown and spotted black snakes are common. The cracking clays suit various frogs,

including the rough frog and salmon-striped frog. The dominant small mammal is the house mouse while the most common native rodent of the grasslands is the pale field rat. Stripe-faced dunnarts and common dunnarts live down in the cracks.

Grasslands have less appeal than coral reefs and rainforests, so it's much harder to elicit public or political support for their preservation. They often overlie fertile agricultural and pastoral land or natural gas and coal deposits, as is the case on the Darling Downs. Money shouts louder than an earless dragon squeaks. It will be very sad if, through apathy and inaction, these grasslands and their unique adapted fauna are allowed to slip into oblivion. ■

READING: Melville J, Goebel S, Starr C, et al. 2007. Conservation genetics and species status of an endangered Australian dragon, *Tympanocryptis pinguicollis* (Reptilia: Agamidae). *Conservation Genetics* 8:185–95 ■ Melville J, Smith K, Hobson R, et al. 2014. The role of integrative taxonomy in the conservation management of cryptic species: The taxonomic status of endangered earless dragons (Agamidae: *Tympanocryptis*) in the grasslands of Queensland, Australia. *PLoS One* 9(7):e101847.

ROD HOBSON has had a life-long interest in Australian fauna dating back to his childhood in Toowoomba in the 1950s. For the last 20 years he has worked as a resource ranger for Queensland Parks & Wildlife Service doing fauna and flora surveys and monitoring. His passions are Australian reptiles and freshwater fish and, in recent years, invertebrates including dragonflies, land snails, dung beetles and scorpions.

Photo: Robert Ashdown.