

Chapter 4: Reptiles & Amphibians

Marieke Lettink

Independent ecologist / herpetologist, Fauna Finders, Christchurch

What is a reptile?

Reptiles are a very old group of animals. Their ancestors lived in water and took their first brave steps onto land more than 300 million years ago. Many reptile species alive at that time have since become extinct, the most famous being the dinosaurs that roamed the planet until about 65 million years ago. Modern-day reptiles include turtles, crocodiles, snakes, lizards and tuatara. All except crocodiles live in New Zealand or visit its shores, but only 2 groups – lizards and tuatara – live and breed on land. Sea snakes and turtles are occasionally seen in warmer waters around New Zealand.

So, what exactly is a reptile? Firstly, reptiles are vertebrates (animals with backbones). Secondly, they are ectothermic (“cold-blooded”), meaning that their body temperature fluctuates with that of the environment instead of being constant. One advantage of this lifestyle is that reptiles do not need to eat all the time. In cold weather, reptiles slow down their metabolism and can go without eating for weeks or even months. Imagine what you could save on your family’s food bill if humans could do this! A disadvantage of being cold-blooded is that cold weather forces reptiles to be inactive. Reptiles typically spend the cold months of winter hidden away in a secure retreat site that predators cannot access (e.g. underground, in rock crev-

ices or under bark). Thirdly, reptiles are part of a group of animals known as tetrapods (“tetra” meaning four and “pods” meaning limbs). Even modern-day reptiles that do not have legs, such as snakes and legless lizards, had four-limbed ancestors. Fourthly, reptiles have scales instead of fur or feathers. Finally, reptiles are amniotes – this means that they lay eggs with a special membrane that prevents them from drying out on land. In summary, reptiles are four-legged animals (or had four-legged ancestors) with backbones that have scales, are cold-blooded, and reproduce by laying eggs that have a special membrane.

What is special about New Zealand reptiles?

New Zealand is not as warm as the tropics or Australia, yet it supports a lot of different kinds (species) of reptiles. The most diverse group are the lizards, consisting of 100 species of geckos and skinks (2012 figures). The number of species will change in the future as more are discovered in the wild (e.g. in remote, mountainous areas of the South Island) and scientists spend more time studying species that are difficult to tell apart. Of the 100 lizard species currently known, 99 are endemic (found only in New Zealand) and one (the rainbow skink) is introduced from Australia.

By world standards, New Zealand lizards are unusual for the following reasons:

- (1) all but 2 species do not lay eggs, instead giving birth to perfectly-formed miniature versions of themselves (this is called viviparity)
- (2) they are incredibly long-lived (the current record-holder is a 48-year old gecko living on a predator-free island in North Canterbury)
- (3) we have brightly-coloured 'green geckos' (9 species in the genus *Naultinus*) that are active by day (diurnal). In contrast, most of the 1000+ species of gecko found world-wide have drab colours and are active at night (nocturnal).

Although the tuatara looks like a lizard, it is actually the only surviving member of an ancient group of reptiles called Sphenodontians which roamed the planet before and alongside the dinosaurs. Tuatara are even more long-lived than lizards, with some animals living 100+ years.

www.doc.govt.nz/conservation/native-animals/reptiles-and-frogs/reptiles-and-frogs-distribution-information/species-sightings-and-data-management/report-a-sighting.

Amphibians

Native frogs belong to the most ancient and primitive form of amphibians. Unlike other amphibians, our native frogs have no external eardrums, don't croak like frogs, and don't have a tadpole stage; their embryos hatch almost fully formed from eggs.

Because of land clearing & predators, 3 of the original 7 species of native frogs have become extinct. The remaining 4 species are found only on islands in the Marlborough Sounds and isolated parts of the North Island.

There are no native frogs in Hurunui District, however DOC is interesting in knowing the location of introduced species. To identify frogs and report sightings, click on the link below:

How can we help lizards in the Hurunui District?

The Hurunui District is home to at least 10 lizard species. The main threats they face are habitat loss and predation. Lizard habitat may be lost or degraded by changes in land use, such as the removal of native vegetation and other features that are important to lizards (e.g. rock piles), dairy conversions, planting exotic forestry, building roads and subdivisions, the spread of noxious weeds and fire. Lizards are preyed on by pest mammals (cats, ferrets, stoats, weasels, hedgehogs, possums, rats, and mice) and some birds (e.g. magpies, kingfishers). Yet another threat that mainly affects green geckos is illegal collection by international wildlife criminals for supply to the overseas pet trade.

You can help lizards in your area by doing any of the following:

- Record lizard sightings and submit these to your local Department of Conservation (DOC) office;
- Join a community group that participates in activities that help lizards (e.g. pest control);
- Plant tussocks, shrubs and trees to enhance and connect lizard habitat, and remove weeds;
- Protect lizard habitats by means of a covenant or land protection agreement;
- Immediately report sightings of people suspected of poaching lizards to DOC [**Hotline 0800 DOCHOT (0800 362 468)**].
- If you know of any green gecko populations living in your area please contact Dr Marieke Lettink (sightings/photos should be sent by email to marieke_kakariki@clear.net.nz). Thank you!