

Two new species of gecko have been described in the past six years. One of these, the aptly named harlequin gecko (*Hoplodactylus rakiurae*), is undoubtedly one of the most strikingly coloured lizards in the world. Making its home in the Tin Ranges of Stewart Island, it also has the rather unenviable title (for a cold-blooded reptile at least) of being one of the most southerly occurring lizards in the world. The other new species only inhabits areas of the Seaward Kaikoura Ranges and was originally discovered when a specimen was found swimming in a water container belonging to an ornithological party in the area.

An especially exciting extra to the lizard fauna is the enormous 600mm long gecko recently discovered as a museum specimen in Europe. Unfortunately, it appears that this is a posthumous addition which has followed in the footsteps of New Zealand's other extinct giant, the moa.

Urgent priority

Conservation of endemic lizards has become an urgent priority in recent years because of human pressures on them. Habitat destruction and modification has seriously depleted numbers of some species, particularly the arboreal geckos. These reptiles primarily inhabit scrubland of varying types, especially the kanuka-manuka-mingimingi associations which often contain a high percentage of introduced plants such as acacia and gorse. Such habitat is often regarded as useless and unattractive, despite its important function as a protective cover for regenerating forest.

In suburban Auckland the demand for housing is ever increasing and scrubland is usually the first to go under the bulldozer's blade. A similar situation occurs in rural areas where the scrub is turned into more 'useful' farmland. Unable to disperse as other fauna may, many hundreds of lizards must be killed this way every year.

The New Zealand Herpetological Society is primarily an Auckland-based amateur group of enthusiasts who have been taking steps to stop some of this slaughter. Over the past three years NZHS members have

salvaged over 400 Auckland green geckos (*Naultinus elegans elegans*) and forest geckos (*Hoplodactylus granulatus*) from several salvage sites due for development on Auckland's North Shore. This has been carried out after obtaining permission from the owner of the land and by requesting a permit to rescue protected lizards from the Department of Conservation. Small numbers of protected Pacific geckos (*Hoplodactylus pacificus*), moko skink (*Leiopisma moco*) and rata skink (*Cyclodina ornata*) have also been salvaged.

In 1986 a further salvage site was located in Northland. The draining and destruction of the Kaimaumau Swamp, north of Kaitiā, for kauri gum extraction is a depressing loss of tremendously valuable wetland habitat for such species as the fernbird, bittern and black mudfish as well as the Northland green gecko (*Naultinus grayi*), all of which are rapidly declining in range because of habitat loss. Clearance in this area is particularly severe for the geckos as the small amount of land to be preserved is near the centre of the swamp where there appears to be a lower density of lizards as compared with the unsecured margins.

Constant vigil

The NZHS maintains a constant vigil for further threatened habitats of any protected lizard species so such salvage operations can be carried out. Under present legislation these rescued animals cannot be re-released into the wild and thus they are absorbed into captive breeding programmes.* Ideally it would be preferable to save some of these habitats to ensure the continued survival of these species in the wild. Usually the threat to these areas is not discovered until a late stage. However, the NZHS is currently assembling a case to present to DOC for part of one of the Auckland sites to be preserved as, not only have no fewer than six lizard species been located there, but there is also an excellent representation of native birds, fish and plants in scrub, forest and swamp habitats, all within fifteen minutes drive of downtown Auckland.

As an alternative to maintaining the salvaged animals in captive collections, the NZHS is also attempting to obtain permission to transfer some specimens to nearby reserves. This would establish viable populations of geckos that will thrive in the Greater Auckland region for the future. Such colonies would provide valuable information on the population dynamics, growth, reproduction and behaviour of these lizards, while also providing a population of known size and age for future field research. Such experimentation with relatively common species could also provide information on the techniques required for establishing populations of rarer species in the future.

Predators, particularly rats, have had a devastating effect on native lizards. Almost half of the recognised species are now only found on off-shore islands or have extremely restricted ranges on the mainland, with evidence suggesting that many of these were once more widely distributed. The large skinks have been particularly vulnerable to rat predation because they are ground-dwelling and often nocturnal. DOC is currently endeavouring to consolidate the status of one species, Whitaker's skink (*Cyclodina whitakeri*), by attempting to establish a new and hopefully secure population (see *Forest & Bird*, February 1988, pp 32-33).

DOC's field work is being supplemented by a captive breeding and research programme at Auckland's Heritage Park. Here the only existing captive colony of these skinks is maintained by park staff in the hope that it will provide valuable data on individual and population growth, reproduction and habitat requirements.

Similar ventures

The success of the Whitaker's skink project could conceivably pave the way for similar ventures with other endangered species. Perhaps some of the species which are restricted to dangerously small mainland populations, such as the striped skink (*Leiopisma striatum*), could be rescued from the brink of extinction by establishing groups on safe off-shore islands, as is being attempted with the kakapo on Little Barrier Island.

The importance of captive breeding as a conservation tool should not be underestimated. This is often left as a last resort for endangered animals at which stage the available gene pool is much reduced and valuable specimens can be lost through ignorance of the species' requirements in captivity. Techniques for successful captive maintenance and breeding should be learned while sufficient numbers of specimens are available to set up captive colonies.

The Great Barrier skink (*Leiopisma homalonotum*) is restricted to Great Barrier Island where DOC, with the help of NZHS members, have invested a great deal of time and effort into this species for little return. This is mostly due to the habits and habitat



Part of a New Zealand Herpetological Society salvage site on Auckland's North Shore. This prime area, which contains one of the country's most diverse lizard faunas with six separate species, is due to be cleared for subdivision. Photo: Robert Porter

* *Forest & Bird* also prefers saving habitat to salvage and captive rearing. The Society has achieved major successes in saving habitat through the land allocation process, our wetland protection campaign, planning controls on urban subdivision and campaigns against shrubland clearance at Te Paki, Kaimaumau and Aotuhia, and against tussock development in Otago - Editor.