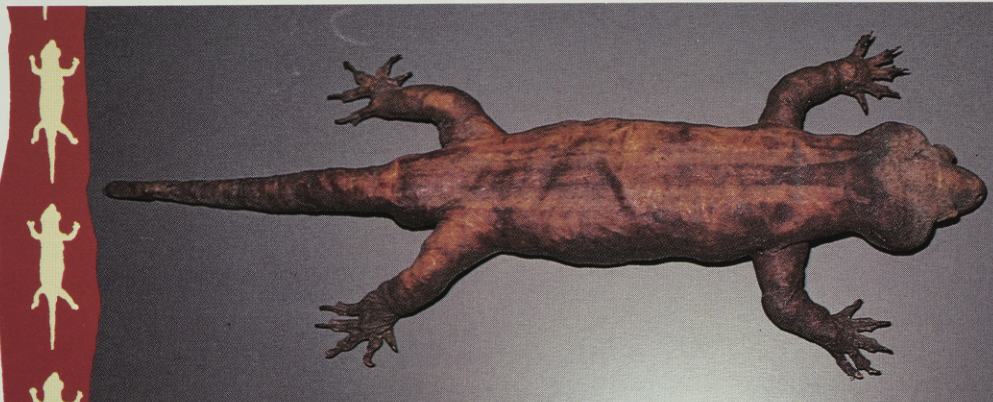


The material used to stuff zoological specimens can often indicate their origin. This was examined in the hope that the big gecko might contain plant fibre peculiar to New Zealand such as flax. Instead, the stuffing almost certainly contains sisal, a fibre commonly used in taxidermy last century.

An expert on the New Zealand geckos, Rod Hitchmough at Victoria

University, re-assessed the external form of the gecko, counting and measuring scales and checking body proportions. He confirmed Bauer and Russell's placement of the big gecko in *Hoplodactylus*.



The colour and colour pattern of the only specimen of *Hoplodactylus delcourti* closely match Mair's 1873 description of the kawekaweau – "... colour brown striped longitudinally with dull red".

X-rays of the specimen were able to provide sufficient detail of the skull and limb bones to also show that its placement in *Hoplodactylus* is probably correct on the basis of its bone structure. The *H. delcourti* specimen is a male and fortunately one of its cloacal bones is still in position, adhering to the inside of the skin at the base of the tail. The X-ray images are remarkably similar in shape to the kumi "rib" in Canterbury Museum and it is virtually identical in size.

Next came Victoria University parasitologist Ruth Ainsworth who thoroughly examined the whole exterior surface of the *H. delcourti* specimen in the hope of finding New Zealand parasitic mites still adhering to it. Unfortunately this was not to be.

After the parasitologist came the geneticist. Laboratory techniques with DNA now allow genetic "finger-printing" to identify the relationships between species or even between individuals. Geoff Chambers, from Victoria University, hoped that minute tissue samples scraped from the inside surface of the skin would show how *H. delcourti* is related to other geckos and prove it is correctly placed in the New Zealand genus *Hoplodactylus*. Sadly however, the samples yielded no DNA, perhaps because of the tanning process used on the skin.

The final effort to prove a New Zealand origin for *H. delcourti* involved DSIR's forensic palynologist (a person

who studies plant pollen), Dallas Mildenhall. If the pollen adhering to the specimen turned out to be predominantly of New Zealand plant species it would show that if not actually collected here the animal had, at the very least, been in this country at some time in the past. No luck. The pollen Dallas was able to collect from the skin surface and the stuffing proved to be all from European plants –

mostly pines, spruces and hops. Although nothing was discovered that would tie the Marseille specimen to a New Zealand origin, neither was anything found that is inconsistent with it having come from here. The most likely scenario – common to many zoological specimens taken to Europe from New Zealand – is that the gecko went to Europe pickled in alcohol and was later prepared as a study skin by a professional taxidermist.

WHERE TO FROM HERE? Because the Museum d'Histoire Naturelle de Marseille made it quite clear that the loan of *H. delcourti* was an exception to their general policy, the New Zealand research was carefully recorded on film, X-rays and transparencies. Because the most convincing proof of a huge gecko in the New Zealand fauna will probably come from the discovery of skeletal remains in cave or dune deposits, the X-rays of the specimen will be used to prepare a reference atlas for palaeontologists working on sub-fossil fauna.

Closer to home there might be leads in some lost papers of Frederick Manning or Gilbert Mair both of whom supposedly saw or held specimens of kawekaweau. And finally there is the mysterious story of Jean Aubin and Andreas Reischek. In 1882 when Reischek was in the King Country searching for Maori artifacts he left his cases of specimens reputedly containing some very large stuffed lizards in the care of Jean Aubin, storekeeper at the border town now known as Pirongia.

Maybe somewhere amongst the papers of Reischek or Aubin there is more detail on what these animals were.

The negotiations to borrow the *H. delcourti* specimen, and its subsequent arrival and display, created widespread publicity and the National Museum received a number of fresh reports of very large lizards. Most of the sightings seemed to involve unwitting exaggeration of size or misidentification but a few, particularly one near Gisborne, could not be explained away so easily.

There are several, albeit remote, possibilities. Perhaps one of the bigger lizard species that were formerly widespread on the mainland (e.g. Duvaucel's gecko *Hoplodactylus duvaucelii* or robust skink *Cyclodina alani*) or the tuatara still survives on the East Coast or maybe tuatara from offshore islands have been released in the area. Maybe a large species of lizard from Australia has been liberated there. Or, just perhaps, the kawekaweau still lingers on in some remote corner of the country.

If it can eventually be proven that the specimen of *Hoplodactylus delcourti* is indeed from New Zealand, it is almost certainly the animal the Maori people



"about two feet long, and thick as a man's wrist ..." was how Gilbert Mair described a kawekaweau killed near Whakatane about 1870. *Hoplodactylus delcourti* in Wellington in early 1990 for display and research.

knew as kawekaweau. Sadly, the lack of confirmed sightings since the 1870s suggest the kawekaweau is now extinct and must join the long list of species that have succumbed to habitat destruction and the impact of introduced predators since humans arrived in this country.



Tony Whitaker is one of New Zealand's foremost herpetologists. Formerly with DSIR he now works as a freelance ecologist specialising in lizards.