

THE STATUS OF THE COMMONER AMPHIBIANS AND REPTILES IN BRITAIN

In 1982 the Nature Conservancy Council undertook an enquiry in which members participated. The aims were to determine (i) status of each of the nine "commoner" species of amphibians and reptiles, (ii) recent changes in status and (iii) reasons for changes in status. A 50 page report has been published and has been sent to all contributors. Copies of the report can be purchased from the Interpretative Branch of NCC, Attingham Park, Shrewsbury for £3.50 (this price includes postage and packing). The conclusions of the enquiry are as follows.

Among the amphibians, the warty newt is the least common species and suffered the most serious decreases in the 1970s. The larger breeding sites favoured by this species are frequently lost to development of various types, and the warty newt appears not so well adapted as other amphibians, such as the smooth newt or common frog, to take advantage of the creation of garden ponds. The other amphibians experienced loss of traditional breeding sites throughout the period under review, but such losses were compensated to varying degrees by newly-created garden ponds. The frog benefited greatly from this garden conservation and in many areas is now more numerous in suburbia rather than in rural habitats. Overall the level of the British frog population probably changed little during the 1970s. But while the decline in the frog population appears to have been halted, the previous decade or two had seen a marked decrease in frogs, especially in areas of high human population density. There is therefore room for improvement, especially in heavily populated areas, which hopefully will benefit most from the creation of garden ponds followed by the deliberate or unintentional conservation of amphibians. The other three amphibian species have experienced fortunes between the extremes noted for the warty newt and the frog, depending largely on the relative influences of habitat loss and garden conservation. The more rural palmate newt has felt the influence of both factors less than the smooth newt and the common toad. Although these three species may be decreasing less than in the late 1960s, they are nevertheless still suffering some declines.

The four reptile species all decreased in the 1970s as a consequence of loss of suitable habitat. This was most severe in the south east of England and became progressively less serious moving north or west. There has so far been little active conservation aimed at these species, although they will have profited from the establishment of various types of reserves, eg National Nature Reserves on heathland.

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A REVIEW OF HERPETOLOGY IN NEW ZEALAND

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New Zealand is not blessed with the wealth of herptiles that its close neighbour, Australia, can boast. Instead it possesses a small number of endemic lizards, frogs and the tuatara, many of which are very unique in their biology, indicating the extent of the isolation this country has experienced.

The fauna consists of three species of native frog, three species of introduced frog, the tuatara, about eighteen species of native skinks and a similar number of native geckos. There are also a small number of exotic lizards that have become established with varying success. This article will deal mainly with the native lizards as the native frogs and tuatara are justifiably protected beyond the reach of the amateur herpetologist.

Despite the low number of species, New Zealand herpetology, and especially taxonomy, has followed a slow but chaotic road since its inception in the early nineteenth century. The discovery of a group of islands containing a multitude of ecosystems, most with a series of unique plants and animals, provided an open invitation to a plethora of scientists to catalogue these species.

The problems arose because most of these scientific pioneers were working independently of the others, each producing names and descriptions for the same species. This has been further

confounded by type specimens being housed in overseas institutions, often unattainable to New Zealand taxonomists. Locality records were often vague, some types were often labelled as "New Zealand", with no further details on the capture site. Consequently taxonomical herpetology in New Zealand has passed through a state of immense disorder and confusion until the last thirty years.

Charles McCann initiated the new interest in native herpetology with his vast work published in 1955. This paper categorised the New Zealand skinks and geckos sufficiently accurately to provide a base-work for the scientific studies carried out over the next twenty-five years.

It was during the last quarter century that New Zealand herpetology came of age. High quality works on ecology, physiology, genetics, anatomy, behaviour, biogeography and of course taxonomy have been produced using native lizards as their subjects. Some of the more important of these are listed in the bibliography at the end of this article.

Undoubtedly the highlight of this renewed concern was the Herpetological Symposium held in Wellington in 1980. Here New Zealand and overseas scientists gathered to give papers and to discuss numerous aspects of the tuatara, native and introduced frogs and native lizards (Newman, 1982).

This blossoming also launched the amateur herpetologist. The New Zealand Herpetological Society was formed in Wellington in 1969 by a group of scientists and hobbyists. This was followed by the birth of an Auckland branch in 1971. Unfortunately a difference in outlook between members of the Wellington group caused the dissolution of the Society's headquarters and its transfer to Auckland in 1974. Since that time the Society has passed through a purely pet-keeping club to its current maturity of a fine balance between scientific research and the hobbyist.

The scientific side of the Society's work has been greatly enhanced by a close liaison with the Ecology Division of the Department of Scientific and Industrial Research, the Universities and more especially the Wildlife Service. Thanks to the cooperation of Don Newman and, more recently, Dave Towns, both scientists with the Wildlife Service, the N.Z.H.S. has participated in several research programmes. The first of these was a trip to Lady Alice Island, off the north-east coast of the North Island of New Zealand in December 1980. On this trip a study of the tuatara was initiated and some lizard surveys were carried out (Porter, 1981 & 1982).

More recently a long term joint project has been started concerning the status of the skink *Leiopisma homolanotum* on its sole refuge, Great Barrier Island. The N.Z.H.S. side of this project being coordinated by John West. Little is known about this species so the aim is to collect as much basic biological information as possible to ensure a realistic and efficient conservation strategy can be implemented. On a trip to the northern block of the island in January 1983 the Wildlife Service and N.Z.H.S. participants succeeded in finding further specimens of the skink and also produced new locality records for two other species.

Future projects include long term joint surveys of several Auckland sites in conjunction with the Ornithological, Entomological and Forest and Bird Societies. Here many aspects of the biology of a single area will be examined over a period of three to five years.

A further step forward for the N.Z.H.S. was made in 1978 when the Society became a member of the Australasian Affiliation of Herpetological Societies. This involves close contact with societies across the Tasman Sea including exchange of literature and receipt of the A.A.H.S. came in 1981 when the convention was held in Auckland. This included a series of papers on Australian and New Zealand herpetology as well as the usual affiliation business. Australian and local members alike were then treated to a rare glimpse of the tuatara in its natural habitat thanks to the help of the Wildlife Service in organising the field trip. Members are now looking forward to the next convention to be held in Sydney, Australia in August 1984.

New Zealand herpetology is currently in a much brighter situation than even five years ago. A national awareness of how important these small, inconspicuous animals are has grown, especially since the introduction of protective legislation which covers all but four of the endemic lizards. Although the government departments are doing all they can to increase our herpetological knowledge, understaffing and a low level of financial support means progress is

still slow. However, the rise of the amateur and his enthusiasm to become involved in serious scientific research could indicate that the future for New Zealand's herptiles will continue to improve so its unusual and beautiful subjects will be preserved for future generations.

BIBLIOGRAPHY

- Barwick, R.E. (1959). "The Life History of the Common New Zealand Skink, *Leiopisma zelandica* (Gray, 1843). Trans. Roy. Soc. N.Z. 86: (3/4): p. 331.
- Gill, B.J. (1976). "Aspects of the Ecology, Morphology and Taxonomy of Two Skinks (Reptilia: Lacertilia) in the Coastal Manawatu of New Zealand." N.Z. Jl. Zool. 3 (2): p. 141.
- Hardy, G.S. (1977). "The New Zealand Scincidae (Reptilia: Lacertilia). A Taxonomic and Zoogeographic Study." N.Z. Jl. Zool. 4 (3): p. 221.
- McCann, C. (1955). "The Lizards of New Zealand. Gekkonidae and Scincidae." Dominion Museum, Wellington, Bulletin No. 17.
- Newman, D.G. (1982). "New Zealand Herpetology. Proceedings of a Symposium held at Victoria University of Wellington January 1980." N.Z. Wildlife Service Occas. Publ. No. 2.
- Porter, R. (1981). "Lizards of Lady Alice Island, Hen and Chickens Group, North-East New Zealand." *Herpetofauna* 13 (1): p. 26.
- Porter, R. (1982). "Some Comments on the Distribution of Lizards on Islands in the Hen and Chickens Group, North-East New Zealand." *Herpetofauna* 13 (2): p. 12.
- Robb, J. (1980). "New Zealand Amphibians and Reptiles." Collins, Auckland.
- Werner, Y.L. and Whitaker, A.H. (1978). "Observations on the Body Temperatures in New Zealand Reptiles." N.Z. Jl. Zool. p. 375.
- West, J.A. (1979). "Range Extension for *Leiopisma homalonotum* (Boulenger)." *Herpetofauna* 10 (2): p. 31.
- Whitaker, A.H. (1972). "Lizard Populations on Islands With and Without Polynesian Rats, *Rattus exulans* (Peale)." *Proc. N.Z. Ecol. Soc.* 20: p. 121.