

# Stoat in the dock



by Dr Carolyn M King

**M**ost people in New Zealand dislike stoats, not only because they are introduced aliens; there are many other introduced animals that are accepted without question, and granted to have a permanent and deserved place here — for example, sheep, cattle and people. It is not even simply because stoats are carnivores; there are other introduced carnivores which are regarded as positively desirable — for example, domestic cats, sheep dogs and people. No, the problem with stoats is that they have long, thin, sneaky bodies, sharp, mean, sneaky faces and they live in the bush and eat birds.

People tend to distrust them because of their appearance, and so are more than ready to overestimate the damage they can do to forest wildlife. The argument runs something like this: there are fewer birds than there used to be; stoats are nasty, vicious predators that kill a lot of birds; therefore, in order to protect birds, we must control stoats. Logical, reasonable, true? No, no, no. Even if the first two statements were perfectly correct, the third is not a valid deduction from them: and in fact, the first two statements are only partially right anyway.



A stoat killed in a correctly-set Fenn trap is killed almost instantly, usually by double fracture of the spine. The author contends that stoats have caused little damage to bird populations in New Zealand, either in the past or the present, and that money spent on trying to control them is wasted.

Photo: Carolyn M King

## Fewer birds?

How often have you heard it said, or said to yourself, that there are fewer birds in New Zealand now than in primeval times? This lament is generally true, but it can still be misleading, because there are some respects in which it is not true. For example, you must first state clearly whether you mean that there are fewer *species* of birds, or fewer *individual* birds of all or any species; and also whether you are talking about native species only or introduced ones as well. If you mean there are fewer native

species, the facts will bear you out, at least for the inhabitants of land and freshwater; on the main islands, about 50 native land and freshwater species have disappeared, or have been drastically reduced, since around 1000 AD (including some which survive on offshore islands), whereas only 10 species have arrived unaided (and are therefore included with the natives) since the beginning of European settlement. Some of the 12 or so species regarded as “native” but indistinguishable from their Australian relatives (eg the pied stilt) are probably self-introductions dating from between 1000 and 1840, so the total number of species arriving since 1000 is probably more than 10; but it certainly isn’t enough to balance the loss of 50, unless you add the 36 species introduced by man. These would be almost enough to balance the gains against the losses, at least in terms of total numbers, though not, of course, in quality and distribution: sparrows and starlings are no substitute for bush wrens and huias, in appeal or in replacing the losses in our forests. So, in gross terms there are fewer native land and freshwater species than there were, and of course those that have gone are often the most unique and precious, while those that replace them are often common in other countries.

If you mean that there are fewer *individual* birds now than in primeval times, we immediately hit the problem of making assumptions about what the undisturbed numbers were like. Before about 750 AD there were no observers; then there were observers but no records; and by the time there were records, the birds were no longer undisturbed. Still, it would be reasonable to suppose that the average density of birds in the bush was higher a thousand years ago than now; but again, that is a general statement that needs qualifying. Some species are a lot *more* common now than then, mostly those that have thrived on the extended open spaces created by man, or on the food he provides — the herring gull and the harrier hawk, to name only two. But regrettably, these are in the minority: the list of species that have suffered losses in their numbers is far longer than the list of those that have benefitted. And again, the scales are weighted against the old endemics, the most precious and unique of the native species. It is the robins, the blue duck, the black stilt and the takahe (all found only in New Zealand) that have become scarcer, while the pied stilt and the white-eye (indistinguishable from their Australian relatives) thrive.

## Stoats eat birds

Stoats are killers, yes, but not vicious, since only people, not animals, can be “addicted to vice”. Stoats are efficient, yes — at least as far as any predator is, which means that a hunting stoat does not always catch everything it stalks, and probably knows all too well how it feels to be hungry. Stoats kill a lot of birds — well, it depends how you define “a lot”. If you collect a sample of dead stoats and cut open their stomachs, the chances are that you will find feathers in about half of them. That may mean the stoats often kill birds, but it does not necessarily mean that the stoat living in a given place must be killing a large proportion of the total numbers of local birds. Stoats are relatively scarce animals compared with birds. For example, in 40 ha of forest in the Hollyford Valley in summer there might be around 150 pairs of birds, plus their young, and, at the very most, one stoat. This one would probably not be there all the time either, because usually the density of stoats is much lower than one per 40 ha — which means that the local resident animal might visit any particular 40 ha only every second or third day. So even if the stoat kills a bird every day of its life, the amount of damage it can do is limited from the outset by the fact that potential kills are not only hard to catch, but also much more numerous and more quickly replaced than are stoats. Most of the 150 pairs and broods of birds in that 40 ha will never be at serious risk from it, and most will die from causes other than predation.

Conversely, birds do not form the staple diet of stoats, the main contribution towards the nutritive requirements of each day, largely because the ones most frequently eaten, the small bush birds, are light in weight and supply few calories. The really important items for stoats are mammals — especially rabbits in the open country, possums and rats in the bush. In the northern hemisphere, there are many different kinds of wild small mammals — field mice (distinct from and more abundant than the feral house mice we have), voles and lemmings — which are the most important foods for stoats there. People have tended to assume that stoats in New Zealand must eat disproportionately more birds in order to make up for the lack of field mice, voles and lemmings here. But even that quite reasonable assumption has turned out to be wrong, at least when you compare the proportion of birds eaten by stoats in our National Parks with the proportion eaten by stoats on British game estates.