

## Spot-tailed Quoll - *Dasyurus maculatus*

As part of a research project involving the history of the Otways near Lorne, I spoke with Ian Hunt whose family were among the first to live in the region. He told me of the days when his father worked as a tally clerk for a sawmill in the 1930's. As the ancient trees were felled many animals were displaced or injured and more than once, Ian's father came home with a young Spot-tailed Quoll in his coat pocket. He nursed the quolls, feeding them on rabbit, until they could be released again.

Today it is unlikely that many of us will see a Spot-tailed Quoll in the wild. If we do, it will probably be in Tasmania, the last stronghold of the species. On the mainland, where it was once widespread, the quoll now struggles to survive. The most viable populations in Victoria occur in East Gippsland perhaps in regions where there is less pressure from logging.

The Spot-tailed Quoll, *Dasyurus maculatus*, is the largest surviving marsupial carnivore on the mainland and was the first Australian marsupial described by science. As a top-of-the-food-chain predator, it is also threatened from another quarter. It competes for food resources and territories with feral cats, dogs and the red fox. To complicate matters further, aerial baiting for these pest animals is believed to have also affected quoll numbers. In a draft report under the Flora and Fauna Guarantee Act, it was suggested that there may be as few as thirty animals remaining in the Otways<sup>1</sup>.

In February 1987 a healthy male quoll was found dead beside the road at the foot of the Tallarook Ranges, twenty kilometres south of Seymour. Its discovery was never officially recorded and to-date there are no registrations of any quoll sightings in the area. Its home range would have been within bushland on a granite and hornfels mountain which includes the Tallarook State Forest. Was this quoll that eventually stood rigidly on a wooden base in the Alexandra DSE office, the last surviving quoll in the ranges?

BEAM - Mitchell Environment Group decided to launch a survey to find out. A public meeting was organised to hear from biologist Chris Belcher, a leading expert on the Spot-tailed Quoll. Dr Belcher described and demonstrated a survey method using hair tubes. A bait is placed in a specially-designed plastic funnel. A wafer of paper with a sticky surface is wrapped around the entrance so that any animal that puts its head into the funnel will leave a few hairs behind. These hairs can be scientifically analysed to determine the species.

Julie Kirkwood from the Threatened Species Network was also a guest at the meeting and announced that TSN would help finance the survey and analysis. A month later, a second meeting was

held to brief 14 volunteers and to coordinate and map the survey. Seventy hair tubes were distributed in likely quoll territory and left in place for three weeks.

The range is typical quoll habitat; dense wet gullies, tall open forest and sheer granite escarpments with complex crevices and caves. However it is an isolated forest of only about 11,000 hectares surrounded by pasturelands. In good habitat, female Quolls require a minimum home range of 500 hectares while males require at least 2000 and may travel three to eight kilometres a day. Even if quolls were present, the range might support less than twenty animals.

Could this handful of quolls have remained undetected for all this time? One of our volunteers who lives in the area recently sighted a feral Sambar deer in the forest. The stag with full antlers was "almost as big as a cow". It seemed likely that if they could survive on the mountain unnoticed, something as cryptic as a quoll could just as well.

A month later the wafer inserts were collected and many of them had collected hair samples. They were sent to Chris Belcher for analysis and in July the results were returned. 47 tubes, or 71% had hair samples of seven mammal species including Ring-tailed and Brush-tailed Possums, Sugar Glider, two cats and one house mouse. Surprisingly, 38 tubes or 57% contained hairs of *Antechinus* of both local species, *A. agilis* and *A. swainsonii*. Dr Belcher suggested that with this high density of small mammals, the region was well-suited to quolls.

But were any quolls detected? Unfortunately not, although we cannot assume there are no quolls in the ranges. Chris Belcher has reported that in the Otway Ranges where quolls are known to be present, only three detections were made in over 4000 trap nights.<sup>2</sup> And our single survey was hardly comprehensive. But in the end, perhaps it does not matter that the quoll remains undetected. It might keep us forever alert to the unexpected possibilities within thoughtfully retained habitats.

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<sup>1</sup> Flora and Fauna Guarantee Action Statement, Dept Sustainability and Environment, 2001

<sup>2</sup> Ibid.