

# Small wonder...

MICHAEL POCOCK OF THE UNIVERSITY OF BRISTOL IS WORKING ON A NEW METHOD FOR MONITORING ONE OF OUR SMALLEST AND MOST ENGAGING MAMMAL SPECIES, THE PYGMY SHREW.



MICHAEL POCOCK

I have used Longworth traps in my research for many years and over that time I've captured thousands of mice, voles and shrews. However, whenever I catch a pygmy shrew (*Sorex minutus*), I can't help but marvel at quite how tiny it is. While a common shrew is about the width of my thumb, a pygmy shrew is just the width of my little finger. A fully grown pygmy shrew weighs just 6g (less than a two pence piece) and is at least ten thousand times lighter than me. Yet a pygmy shrew manages to pack into its body tiny versions of all the same vital organs that I have in my much larger body.

## Relative size

Pygmy shrews are almost the smallest land mammals in the world. Some related shrews are a gram or two lighter when fully grown – Savi's pygmy shrew, *Suncus etruscus*, is the very smallest and weighs just under 3g when fully grown – less than a one pence coin. These mammals are just about at the limit of how small a mammal can be.

For the shrew, one problem with being small is that its body

surface area is large compared with its body size, which means that it loses heat rapidly. Therefore pygmy shrews must eat regularly throughout the day and night. Every day, they catch and consume over 250 small invertebrates, particularly spiders, beetles and flies. Overall, they eat up to one and a half times their body weight each day.

Pygmy shrews are generally solitary. Despite their small size, they have home ranges that are a few hundred metres square. These tend to be larger than for common shrews in similar habitats and pygmy shrews are more likely to disperse across inhospitable terrain than their larger relatives.

## Tracking pygmies

The small size of pygmy shrews makes them difficult to observe and study. According to the report on UK mammals by the Tracking Mammals Partnership, there are about 10 million pygmy shrews in Britain, but their historical and recent trends are unknown.

A couple of years ago I worked with Dr Nancy Jennings to validate a method for assessing the abundance of shrews without catching them. This involved using hair tubes, which are small tubes with a sticky strip placed across the entrance. Small mammals entering the tubes leave their hair on the sticky strips and measurements can be taken from the hairs to work out which species passed by.

There is an important welfare advantage in using hair tubes since the small mammals are not caught in traps or handled. There are other advantages to hair tubes too. Firstly, hair tubes are cheap (a couple of pence each compared with £50 each for Longworth traps). Because animals are not 'captured', hair tubes can be left out for a week before checking, which makes them

ideal for monitoring by part-time volunteers.

Of course, live traps are still very valuable for estimating population size, survival, rates of movement and breeding success. However, I strongly suspect that on many occasions, pygmy shrews simply run underneath the treadle that shuts the door, making live traps less effective for them than for mice or voles.

Nancy and I found that the majority of the hairs in our smallest tubes were identified as pygmy shrew hairs. This led to my current project, funded by PTES. In this work, Sophie Bell and I are adapting the design of hair tubes so that only pygmy shrews can enter. Thus any hair left on the sticky strips belongs to pygmy shrews, and there is no need to examine and measure the hairs with a microscope. This makes the technique ideal for anyone with a good eye and a decent hand lens (after all, pygmy shrew hairs are only 2mm long!).

We are also testing how reliably hair tubes record the presence of pygmy shrews, and so how many tubes will be needed to provide a confident record of the presence (and possibly abundance) of pygmy shrews at a site. In a few months time, we should have a good method for monitoring pygmy shrews which could be used by any volunteer. The hair tubes could be incorporated into national surveys of small mammals and so allow us to understand more about our tiniest species of mammal.



MICHAEL POCOCK

FUNDED PROJECT



While similar in general appearance, placed side-by-side the difference between the pygmy shrew and its close cousin the common shrew becomes obvious.

## READ ON



Information on pygmy shrew from the Tracking Mammals Partnership is available at [www.jncc.gov.uk/page-3311](http://www.jncc.gov.uk/page-3311). Results of the earlier pygmy shrew project by Michael Pocock and Nancy Jennings are published in Mammal Review 36, 299–308.