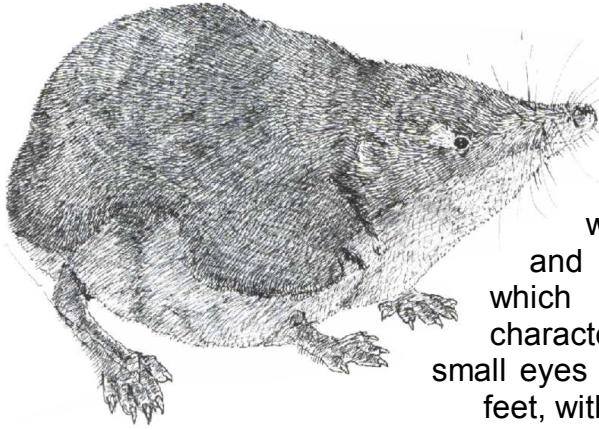


## The Water Shrew (*Neomys fodiens*)

Julian Jones



The elusive water shrew lives along the well vegetated banks of clear, unpolluted rivers, streams, ditches, reedbeds and ponds where it swims and dives into water to hunt for food. Measuring between 6-9 cm with a tail of 4-7 cm, the water shrew is larger than common and pygmy shrews and can also be distinguished by its black upper parts which contrast with silvery-grey underparts. It has the characteristic long nose and sensitive whiskers of a shrew, small eyes and ears and a fringe of silvery hairs on the tail and feet, with white tufts around the eyes and ears.

### Distribution and status

The water shrew is found throughout central and northern Europe and has even been recorded at 2500 metres above sea level in the Alps, where it lives along fast flowing mountain streams. It is distributed throughout mainland Britain, but absent from Ireland. Information on its distribution in upland areas of the UK is sparse, though it has been recorded up to 420 metres above sea level in Wales. Little is known about the status of the water shrew in the UK, but it is likely to be vulnerable to pollution, acidification of water courses, loss of bankside cover, disturbance to river banks and direct loss of wetland habitats.

No systematic surveys have been carried out in Derbyshire to date, but records held by Sorby Natural History Society and Derbyshire Biological Records Centre suggest it is widely distributed. Known sites include the Rivers Wye and Dove. It is difficult to assess whether water shrew populations in the county are stable, declining or increasing, but newly developed survey methods may stimulate further searches for these fascinating animals in the future.

Water shrews are insectivores and must feed every few hours or they will die. They feed mainly on aquatic invertebrates such as freshwater shrimps and caddis fly larvae. They will occasionally eat small fish and amphibians and, like other shrew species, will also feed on land where they will take beetles, spiders, worms and molluscs. In the water, they hunt by swimming along the surface and then diving to the bottom to search amongst stones and submerged plants. They pick up their prey in their mouths and carry it to the surface, often killing and eating it on a nearby rock. Hairs on the tail and feet help the water shrew to swim and it is able to dive down to a depth of one metre or more. The animal's dense, water-repellent fur makes it so buoyant that it can only stay under the water for a few seconds at a time. It may prefer shallower waters where it is easier to find prey during short forays under water.

The water shrew's preference for clean water which supports good populations of small aquatic animals make it an excellent indicator of the health of Derbyshire's wetlands. It is vital that we identify good sites for water shrew in the county so that we can monitor them and ensure they are protected in the future.

**The saliva of the water shrew contains toxins that immobilise their prey. This adaptation helps the shrews to subdue larger prey items such as newts.**

## Searching for signs of water shrews

Prey remains, such as caddis larvae cases may be left at favoured feeding sites and caches of food, such as partially eaten snails, may suggest water shrew presence. As they are insectivores, water shrews do not leave chopped plant remains. These, especially when found close to holes or along water courses, are likely to indicate water vole or field vole activity. Piles of tiny black droppings, which are crumbly in texture and measure 7 mm long and 2 mm wide, may be found along runways or on rocks in streams, though their small size makes them very difficult to spot. Water shrews live in burrow systems close to watercourses; their entrance holes measure about 2cm in diameter and are hidden in bankside vegetation. Water shrews may sometimes be heard squeaking or “churring” in alarm, but such sounds may be difficult to distinguish from those of other shrew species.

Julian Jones



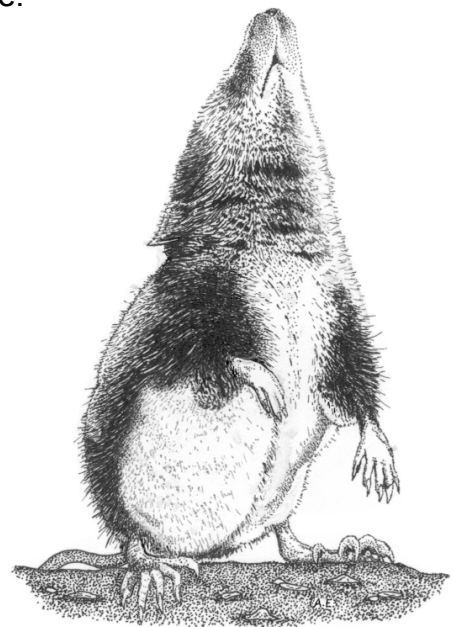
The water shrew has a fairly nomadic lifestyle, but will sometimes live in small groups. Densities never appear to reach large numbers, even at favoured sites. The breeding season extends from April to September, with one to three litters of young born each season. Young remain with their mother for about 40 days. Water shrews only live for between 12 and 18 months, with most adults dying at the end of the breeding season. They are vulnerable to predation by carnivores, from mink and foxes to birds such as owls and herons and will even be eaten by large predatory fish like the pike. As a defence against some of these predators, shrews have glands along their flanks which produce a foul smelling oily substance, making them unpalatable, especially to mammals.

A new method of surveying for water shrews has been developed by shrew expert Sarah Churchfield. Plastic pipes are baited with blowfly pupae and left at suitable sites for seven days. Droppings left in the tube by small mammals are then collected and examined under a microscope. The presence of aquatic invertebrates in these droppings can confirm water shrew presence.

Under Schedule 6 of the Wildlife and Countryside Act (1981), it is illegal to capture or kill any species of shrew without a licence.

## Protecting water shrews in Derbyshire: what can you do?

- Look out for any signs of water shrews. Contact the Wildlife Trust if you know of any places where water shrews occur.
- Report water pollution incidents to the Environment Agency's Pollution Hotline: 0800 80 70 60, or direct to your local Environment Agency office.
- If you own or manage land it may be possible to restore or create wetland habitats. Ponds, ditches, reedbeds and river banks are all valuable for water shrews as well as a wealth of other wetland wildlife. Financial support may be available through local and national agri-environment schemes. Contact us for further information and advice.
- Join Derbyshire Wildlife Trust: your support will help us to manage our nature reserves to benefit water shrews.



*produced with support from*



**Derbyshire Wildlife Trust** Tel: 01773 881188 [www.derbyshirewildlifetrust.org.uk](http://www.derbyshirewildlifetrust.org.uk)  
Registered charity no. 222212

Protecting **Wildlife** for the Future