

FEN RAFT

SPIDERS



Dr Helen Smith helped to save one of Britain's **rarest spider species** from extinction. She reared thousands of fen raft spiderlings in her **kitchen!** The spiders were released into the wild, where they now thrive.

Maahi: What inspired you to start helping raft spiders?

I've always loved wildlife. I started off doing research as a botanist – spiders came later and rather by accident. I moved house to live on the edge of Redgrave and Lopham Fens nature reserve. This was home to rare fen raft spiders. I got involved with conservation work for my new neighbours because their numbers were dangerously low. Their beautifully adapted way of life fascinated me. I want to do everything possible to ensure this very rare species has a safe future.

Scarlet: How do you look after raft spiderlings?

The spiderlings all get on well together for the first week or so of life, when they're in their nursery web. After that, if still kept close together, they can start to eat each other.

Each spider was **reared** separately in a small test tube. There is damp cotton wool at the bottom, a perch and a frequent supply of food.



Spiderlings in test tubes

The most challenging bit is getting live food (and it does have to be *live*) into small test tubes. Especially without the very active little spiders inside escaping!

Many of the tiny spiderlings eat **fruit flies**, which I was able to collect from my compost heaps and wormery. Some needed even smaller flies. The best source of these was fresh **pony dung**, so I spent a lot of time with a sweep net, following ponies!

For the first year, I reared the spiderlings in my kitchen. After that, I had help from the brilliant staff and volunteers from zoos across the country.



Lyra: How many spiderlings did you release?

We released over **30,000 spiderlings** in the Norfolk and Suffolk Broads. The sites were not far from the natural population at Redgrave and Lopham Fen. Around 6,000 of these were reared in individual test tubes. The others were released when they were much younger, with their mums and siblings. They were in nursery webs built inside plastic water bottles.

Belle: Are they doing OK in their new home?

The spiders are doing really well. We counted nursery webs in summer 2022. We estimate the spiders now occupy ditches across at least 550 hectares of marshland. That's an area bigger than 900 football pitches!

Moving the spiders to new sites makes them much less vulnerable to extinction. Fire, saltwater flooding or drought at any of the sites could result in their loss. But with seven sites rather than three, they are now much safer.

Rais: How do they catch their prey if they don't use webs?

Like many spiders, they are **sit-and-wait hunters**. They rush out from their hunting perches to grab passing prey. They hunt mostly on the water's surface but can also catch prey **underwater** and on dry land. Sometimes they even eat small fish.

Carrie: Do raft spiders actually make rafts?

No – although when they sit on floating leaves to bask or hunt, these effectively become rafts. A Victorian naturalist came up with the name. He thought they may be using silk to deliberately create a raft. The spiders are raft-like when they rest on the water's surface. They stretch out their legs to spread their weight.



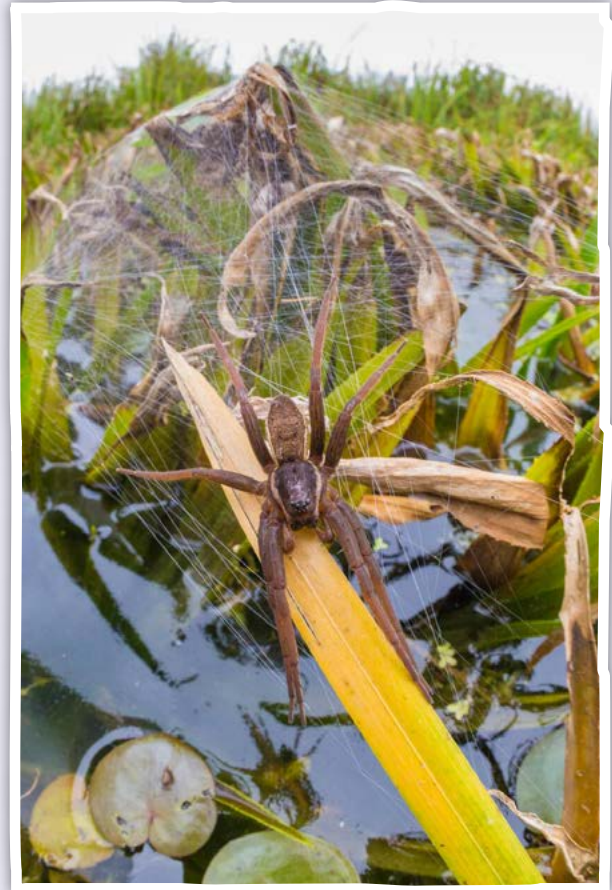
Fen raft spider catching a stickleback

The spiders have a brilliant early warning system. They have long, very **sensitive hairs** and **sensory slits** in their **cuticles**. This helps them to detect the direction, distance and speed of passing animals. They sense vibrations in the air and water. This is more important than visual signals for catching prey and avoiding predators.

Willow: Why are they so rare?

These spiders have quite specific habitat requirements. They rely on a supply of clean water, usually in lowland areas. There must be suitable vegetation growing at the edge of the water to support nursery webs.

Lowland wetlands in Britain have suffered bigger losses than almost any other habitat. This is mostly as a result of **drainage** for farm crops and public water. Thanks to the work of conservationists, the spiders had a helping hand to find suitable new homes. Organisations such as the Wildlife Trusts have restored large areas of damaged wetlands. They are rich and special places for wildlife once again.



Fen raft spider guarding nursery web



Spider mum with an egg sac

Ilyas: How big is a raft spider?

Like us, they start small! Newly emerged spiderlings are less than 2mm long. Adult females can be up to 23mm long – or around **7cm** if you include their leg span. They are one of the biggest spiders in Britain.

Nunu: Could a raft spider bite you?

Only a handful of Britain's spiders can nip humans and only in self-defence. Adult fen raft spiders could certainly give a nip. But in 30 years of working with them and often handling them, I have never been bitten.

See <http://dolomedes.org.uk> and <http://suffolkwildlifetrust.org/fenraftspider> to find out more.

Vocabulary

Cuticle: The outer layer of skin.

Drainage: The system of water flowing away from somewhere, usually down pipes.

Rear: To care for young animals.

