



## Wide Sargasso Sea

They can dive deeper than a nuclear submarine, make perilous journeys across the ocean not once, but twice in their lifetime and are trafficked in suitcases in their millions. Julia Platt Leonard learns more about the threats facing *Anguilla anguilla*

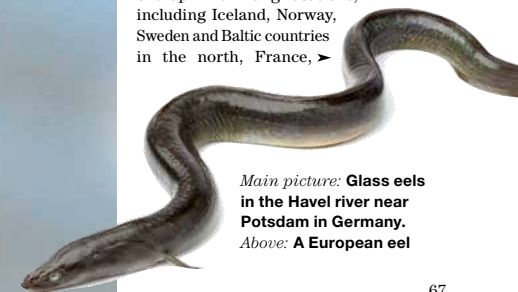
**T**HERE is something mythical about the eel, as if it were an imaginary creature such as a unicorn or a griffin. It is literally—and figuratively—slippery, full of contradictions and mystery. For as much as we know about *Anguilla anguilla*—the European eel—there is far more that we don't. If you should be standing on the banks of the River Severn one night when the moon peeks out from behind a bank of cloud and catch a glimpse of an eel slipping through the water, you'll see how magical it can be.

The eel, with its distinctive, snake-like shape and fringe of fins, has been gliding through our waters for some 100 million years. Life begins thousands of miles away, in the Sargasso Sea, an area of the Atlantic Ocean as big as France, Germany and Britain combined. Billions and billions of eels are born there each year and begin the treacherous journey east, drifting along currents coming out of the Caribbean. They're tiny, leaf-shaped creatures at this stage and only a fraction will survive the estimated two-year-long crossing.

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Why does the eel undertake such a long migration? There are 16 eel species globally that have both an ocean and freshwater life, including the European eel, and each has its own equivalent of the Sargasso Sea. 'The European eel makes much the longest journey,' reveals Andrew Kerr, founder of the Sustainable Eel Group (SEG), a conservation organisation working to protect and accelerate the recovery of the European eel. 'The reason is that Europe and North America have drifted apart, so this migration has become further and further.'

Lucky survivors arrive at the coast as glass eels, still only about 4in long. Depending on where the current takes them, they can end up in far-flung locations, including Iceland, Norway, Sweden and Baltic countries in the north, France, >



*Main picture:* Glass eels in the Havel river near Potsdam in Germany.  
*Above:* A European eel





**A superior sandwich: Jeremy Lee's creation at Quo Vadis is made with sustainable eel**

Spain and Portugal in western Europe, and North Africa and Madeira. And, of course, many reach our shores. 'It's one genetic species for that vast chunk of the Northern Hemisphere,' confirms Mr Kerr.

When in the ocean, the eels are transparent, which helps to protect them from predators. It's not until they reach wetland habitats that they metamorphose into elvers, which can change colour according to their surroundings. 'If you see an eel in a chalk stream, you get these lovely, golden yellow-greenish tinges coming through—it's actually very beautiful,' says Mr Kerr. 'It's a very adaptable species, which is one of the reasons it has been around for 100 million years. If it couldn't adapt, it wouldn't have survived that length of time.'

Next, the eels start developing swimming muscles and can take advantage of tidal currents, like surfboarders catching a wave. 'They sit on the bottom of the riverbed and, when they feel the current coming, they swim up to the surface and ride for half a mile or so, then drop down again and wait for the next tide, 12 hours later,' explains Mr Kerr. By the time they've travelled, say, 20 miles upriver, they've got strong muscles. 'They're beginning to do much more swimming than free riding.'

Eels grow and mature at different rates, depending on where they live. 'An eel that arrives at random in the north of Norway or Sweden might take 50 years to grow and mature,' ponders Mr Kerr. 'It will hibernate in the cold winter and grows slowly.' Compare that to about 15 years for eels in Britain or only 30 months for one in southern Portugal. Regardless of how long it takes, eventually, the eel will begin its Herculean journey back to the Sargasso Sea to breed and die.

Thanks to satellite tagging, we now know more about this extraordinary return journey. 'In daylight, they dive 2,000ft to 3,000ft down and, every night, they come back to the

surface. That's deeper than a nuclear submarine can dive,' Mr Kerr adds. Scientists aren't sure why, but one theory is that they dive deep into the ocean to protect themselves from predators during the daytime, then swim back up to the surface for navigation purposes.

It's thought the eels may not eat during their voyage back to the Sargasso Sea, continues Mr Kerr: 'A large female is thought to be 85% eggs by the time she arrives and there's not much flesh left. They've put on all this weight and built up all this flesh in order to be able to make such an incredible journey.'

## ‘Eel is remarkable. It's the rarest and most precious of smoked fish’

This perilous trip is not the only danger facing the eel. Numbers have dropped precipitously since the 1980s, but the decline goes back much longer. 'If you look at the social-history records, eels have been declining for hundreds of years, really since man started to dam and block rivers and drain wetlands,' Mr Kerr reflects. Threats include loss of habitat, migration barriers, pollution and hydro-power plants—a particular problem for eels returning to the Sargasso Sea. 'When you kill an eel that's been in the river system for 20, 30 or even 40 years, you're not killing one eel, you're killing its reproductive potential. If it's carrying one million eggs, it's quite helpful to think of it in terms of killing a million eels.'

The good news is that eel numbers are on the rise, thanks to co-ordinated conservation efforts. The bad news is that trafficking

### Nice as (eel) pie

- **By the time of the Norman Conquest, eels were being used as payment for rent**

- Jane Grigson describes how to skin an eel in her cookbook *Good Things* (1971): 'Now pull the skin down as if you were pulling off a glove.' If that doesn't work, she suggests using a pair of pliers

- **Eel Pie Island, in the River Thames, took its name from the eel pies served at an inn on the island in the 19th century**

- In the Middle Ages, eels were plentiful in the rivers of the Fens, but were also imported from the Netherlands

- **Potted eel was popular in the 17th century and eel soup was enjoyed in the 18th century**

- Traditionally, elvers—small juvenile eels—were coated in flour and deep-fried or steamed in a loaf. Elver-eating contests were held in Frampton on Severn, Gloucestershire. The World Championships were revived there in 2015, with imitation 'el-vers'

is on the rise, too, says Mr Kerr: 'Some 300 million–350 million glass eels are trafficked, many in suitcases. They're put on aeroplanes illegally and sent from Europe to Asia, in particular China.' This makes it, in sheer numbers, the most trafficked animal in the world. Eels can't breed successfully in captivity, but juveniles can be raised in fish farms. The total value of illegal eel-trafficking is estimated to be a staggering £2 billion–£3 billion.

With all the challenges facing eels, both environmental and manmade, is eating them a good idea? Actually, it's a great idea. SEG certifies eel when it meets exacting standards and is fully traceable from fisherman to plate. 'If the seller can show you that it's come from the SEG-endorsed supply chain, you are actually helping the eel recover. You can eat it with a clear conscience,' Mr Kerr encourages.

This is good news for fans including Jeremy Lee, chef proprietor of London's iconic Quo Vadis restaurant. He sources it from Devon Eel—an SEG-certified, artisan producer—for his moreish smoked-eel sandwich, which is a fixture on the menu. 'Unlike salmon, which is best sliced quite thinly, eel suits these big chunks that give the sandwich an extraordinary structure,' he enthuses. He's tried it with mackerel, herring and other smoked fish, but eel remains supreme. 'Eel is remarkable,' Mr Lee concludes. 'It's the rarest and most precious of smoked fish and one I've always held dear.'

