

By using big brother style tracking technology, scientists have now resolved some of the mysteries of eel migration

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Nobody knows the underlying biological mechanisms of the European eels migration. Thanks to an EU-funded research project called [eeliad](#), now about to reach completion, biologists have revealed some of its secrets, including a better understanding of its biology and migration route.

All European eels living from Northern Africa to Iceland are believed to migrate thousands of kilometers to the Sargasso Sea when spawning.

Findings of newly-hatched [eel](#) larvae in the Sargasso Sea strongly support this theory. But no eggs or adult eels have ever been caught in the area.

By attaching satellite and [data storage](#) tags to about 600 eels from different places in Europe the project scientists were hoping to map the route of the spawning eels. "We could track the satellite tags as far away as the Azores. This suggests that the eels take a different route to the Sargasso Sea than previously thought. It seems as if they're [saving energy](#) by hitching a ride on the Azores Current," Kim Aarestrup tells youris.com. He is a senior scientist at the Technical University of Denmark (DTU), in Silkeborg and one of the leading researchers behind the satellite tagging.

"Very little is known of the oceanic part of the eel's life history," says Martin Castonguay, an eel expert and research scientist at the Maurice Lamontagne Institute in Mont-Joli, Canada, adding: "The most important thing the eeliad project provided is that it gave us the first observations of adult eel migrations in the open Atlantic Ocean for distances up to 1,300 km from the release point." Although he has not been a part of the project, Castonguay believes it has been "very successful".

Among other things the project scientists also tested the spawning ecology of the eels by using genetic research, combined with a fisheries biology technique for tracking fish movement called otolith microchemistry and modelling methods. The analyses were undertaken both on eel larvae collected in the Sargasso Sea and on glass eels collected from the coastline of Europe and North Africa. "Our genetic research showed that the eels living all across Europe randomly mate. This is very unusual for animals that are so widely distributed. It strongly indicates that the European eels are spawning in the [Sargasso Sea](#) and no other places," says Thomas Damm Als, a research scientist at DTU who was involved with the [genetic research](#) in the project.

Even though the European eels is still surrounded by mysteries, "the eeliad project has successfully addressed some issues," notes Reinhold Hanel, director of the Thünen Institute of Fisheries Ecology in Hamburg, Germany, "these include questions about the diving behaviour of eels in the open ocean and a provisional clarification of the migration routes of eels leaving the Baltic [Sea](#). And I certainly expect some more [results] after complete data analyses." Today, the population of the European eels is now less than 5% it was 40 years ago. According to Reinhold Hanel, there is an "urgent need" to do more research on this elusive species.

Provided by Youris.com

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