

**Elsa García Mayoral**

University of Vigo

Nationality: Spanish

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Orientation: Sustainable use of marine resources

Specialization Area: Management and uses of resources

Research Area: 2.1 Research into resources based on Knowledge of ecosystems

PhD project: **Ecology of loliginid squid in a coastal upwelling**

Supervisors: Dr. Ángel F. González (Instituto de Investigaciones Marinas – CSIC)

Dr. Álvaro Roura (Instituto de Investigaciones Marinas – CSIC)

**Summary:** The main aim of this work was to learn more about the paralarval phase of loliginid squids, probably the most difficult phase to study, which are of high interest for stock predictions, growth models or as a model for ontogenetic patterns.

For this study, the mitochondrial cytochrome c oxidase subunit I (COI), also known as the barcoding gene, was used to unequivocally identify the different loliginid paralarvae. In Galician waters, three different species were identified: *Loligo vulgaris*, *Alloteuthis media* and *Alloteuthis subulata* showing a different spatial distribution pattern.

Once we knew which species were found in galician coast, the next step was to calculate the growth patterns of each species. Statistical analyses showed significant differences on dorsal mantle length (DML) at age between gender, being *L. vulgaris* larger at the same age than *A. media* and *A. subulata*.

The next biological question was to elucidate the diet of *L. vulgaris* paralarvae in the wild applying Next Generation Sequencing (NGS). Results suggested that *L. vulgaris* is a generalist predator with a huge food source of crustaceans such as copepods and Krill.

Finally, the genetic diversity and population connectivity of *L. vulgaris* was studied in detail along the West Iberian Peninsula (WIP). Results showed high genetic diversity and homogeneity with high gene flow, revealing a single population along the WIP, which can be managed as a single unit.



Loliginid paralarvae