**Eledone cirrhosa** and SPICT or why it is not easy to assess a short lived cephalopod species

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**INTRODUCTION**

Although some cephalopods have had always commercial value and others started to increase in value in recent years, unlike European Atlantic stocks of many commercially important finfish and crustaceans, they are not routinely assessed and no specific management measures are applied to fleets catching cephalopods, with the exception of some regional harvest control rules for artisanal fleets. Among the species that has been gaining importance in landings is the horned octopus, *Eledone cirrhosa*. This octopus represents an important bycatch for several North Spanish otter trawl fisheries, appearing in landings but also in discards. Like other cephalopods, *E. cirrhosa* is a short-lived and fast growing species, and previous studies showed that its abundance varies in relation to physical and environmental conditions. As a first step towards its possible future inclusion in the ICES annual assessment system, a simple assessment model has been tested in the ICES Working Group on Cephalopod Fisheries and Life History (WGCEPH).

**MATERIAL & METHODS**

**Assessment model:** A Stochastic Surplus Production model in Continuous Time (SPICT) (Pedersen & Berg, 2017) was used. The package (version 1.2.8) is available on GitHub (https://github.com/DTUAqua/spict)

**Input data:**

- Spanish total landings in ICES divisions 8c and 9a for the period 2000-2019.
- Abundance index (kg/hauls) from Spanish IBTS GroundFish Research survey, DEMERSALES for the period 2000-2019.
- Abundance index (tons/fishing sequence) from a commercial bottom trawl fleet (LPUE_LCGOTBDEF) of a Spanish port in the area, period 2009-2019.

**RESULTS & DISCUSSION**

**Outputs plots**

The confidence intervals are wide for relative biomass and huge for fishing mortality. Kobe plot shows that the stock is in the area of harvest state where the biomass is low but the fishing level is good. The SPICT model is a simplification of the dynamic process of populations. Although the residuals in this study passed all tests, the predictions are uncertain. Some improvements in the configuration of the model are needed for these short-lived species.