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**Ecology of sea cucumbers catches in north Atlantic trawl fisheries**

J. Valeiras[1], M. Barreiro[2], J.C. Fernández[2], E. Velasco[1], F. Velasco[3], E. Abad[1]

[1] Centro Nacional Instituto Español de Oceanografía-CSIC, Centro Oceanográfico de Vigo, Subida a Radio Faro 50-52, 36390 Vigo, Spain

[2] OPPF-4 Organización de Productores de Pesca Fresca del Puerto de Vigo. Edificio Ramiro Gordejuela, Puerto Pesquero s/n, 36202 Vigo

[3] Centro Nacional Instituto Español de Oceanografía-CSIC, Centro Oceanográfico de Santander, Promontorio San Martín s/n, 39004, Santander, Spain

Email: julio.valeiras@ieo.es

During the last years a increasing trend on landings of sea cucumbers indicates that these species have been increasingly valued by the fishing sector, beginning to be species of commercial interest for the trawl fisheries. In the past, sea cucumbers were a bycatch species that had been discarded overboard because of the lack of market. The species are poor studied and the stock trends remain unknown. We studied the fisheries trends and ecology of the species captured by the bottom trawl fleet in ICES waters. Abundance indexes from research surveys and fisheries data have been analyzed

The spatial distribution of *Parastichopus regali*s and *P. tremulus* showed differences in abundance in relation to geographic longitude with interannual variations. At Iberian waters, *P. regalis* is distributed up to 400 m deep, with a maximum abundance between 100 and 200 m. *P. tremulus* is distributed from 400 m depth and reaches deeper than 800 m. This species has the highest abundance between 600 and 700 m. The bathymetric segregation between both species remains constant over the years, highlighting the abundances of *P. regalis* in the continental shelf and the abundances of *P. tremulus* in the upper slope. At northwestern waters ICES 7, the spatial distribution of the more common *P. tremulus* showed differences in abundance in relation to geographic area, with large abundances at the south of the Porcupine bank. This species is distributed mainly from 400 m depth but also a number of specimens were found from 150 to 400 m, probably related to latitudinal effect and environmental conditions.

Biological sampling of sea cucumbers was carried out monthly from commercial bottom trawlers working at European fishing grounds. Sampling of length, weight and biology (sex and maturity stage) was carried out following a standard protocol to increase the knowledge on the species ecology. The reproductive cycle of the holothurian *P. tremulus* is presented and its implications for fisheries management discussed.

**Keywords:**
Sea cucumbers, invertebrate ecology, fishing catch data, data poor stock, fisheries management.