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[Life history and fishery of two sympatric squid species \(*Loligo vulgaris* and *L. forbesii*\) from the Western Mediterranean](#)

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Abstract:In the Mediterranean, the squids *Loligo vulgaris* (LV) and *L. forbesii* (LF) are important fishing resources with high economic value, especially for the bottom trawl fishery. LV also constitutes an important target species for recreational and small-scale fisheries. In this work, several life-history traits (population structure, reproduction, condition), the bathymetric distribution and the fishery of these two squids were analysed using data collected during the last 20 years in the Western Mediterranean. The highest frequency of appearance was at 50–100 m depth for LV and at 200–350 m for LF. The overlap between the two squids was low, since they only co-occurred in 5 % of the sampling stations performed at their shared strata (50–200 m). The mean squid size and the percentage of mature individuals increased with depth in both species, pointing to an ontogenetic migration related to reproduction. In LF, females outnumbered males at 300–400 m, which might indicate that these are preferential spawning grounds. While reproduction of LV occurs all year round, it is mainly concentrated in a semester in LF. In the study area, where both species are sold together in a single commercial category, landings come from bottom trawl (66 %), small-scale (20 %), and purse-seine (14 %) fisheries. The catch per unit effort during the last 55 years showed a decreasing trend (1975–1998) followed by an increasing trend (1998–2023) as a result of important fishing effort variations. Squid landings were separated by species using fleet segmentation tools, which showed that the bulk of landings (84 %) belonged to LV.

Keywords:Bathymetric distribution, Population structure, Reproduction, Condition, Recreational fishery, Balearic Islands