



## Long-term fluctuations (1974-99) of the salps *Thalia democratica* and *Salpa fusiformis* in the northwestern Mediterranean Sea: Relationships with hydroclimatic variability

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**ABSTRACT:** We investigated the long-term variability of the salps *Thalia democratica* and *Salpa fusiformis* during the period 1974-1999 at a coastal site in the Bay of Villefranche-sur-mer. During this period *T. democratica* varied both interannually and seasonally, whereas *S. fusiformis* showed only seasonal fluctuations. Weeks in which *T. democratica* and *S. fusiformis* populations were developing in situ (i.e., near the sampling station without advection) are defined as the informative periods. Different species-specific optima of temperature, salinity, and chlorophyll a concentration, as well as stability conditions of the water column, were related to informative periods for the two *Thalia* and *Salpa* species. Long-term temperature oscillations were significantly related to the interannual maxima of *T. democratica*. The link between positive anomalies of temperature and outbreaks of *T. democratica* stress the importance of primary consumers as indicators of changes occurring in the marine system.

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