

Species and size selectivity in a 'red' sea bream longline 'métier' in the Algarve (southern Portugal)



A longline 'métier' using small hooks for 'red' sea breams (*Pagellus acarne* and *Pagellus erythrinus*) in the Algarve (south of Portugal) was studied. Experimental longlining was carried out with three sizes of "Mustad" round bend, flatted, spade end Quality 2316 DT hooks (numbers 11, 13 and 15) and two types of bait: razor shell (*Ensis siliqua*) and mud shrimp (*Upogebia pusilla*). A total of 3 328 fish and at least 36 species were caught with 33 600 hooks fished in 28 longline sets. Five species of sea breams (Sparidae) accounted for 79% of the catch: *Pagellus acarne*, *Pagellus erythrinus*, *Diplodus vulgaris*, *Spondylus cantharus*, and *Boops boops*. High catch rates of 20-30 fish per 100 hooks were made in a number of 1 200 hook longline sets, with total catch weights of 40 to more than 60 kg per set. In general, the smallest hook (number 15) had the highest catch rate. Bait type did not significantly affect the catch size distributions. Although more fish were caught with the razor shell bait, higher catch rates of 'red' sea breams were obtained with mud shrimp. Catch rates were also affected by the location of the fishing grounds and the time of the set,

with the highest catch rates obtained when the longline was set within two hours before sunrise. A wide size range was caught for each species, with highly overlapped catch size frequency distributions for the three hook sizes used. Except for *Spondylus cantharus*, few illegal-sized fish were caught, even with the smallest hook. The logistic model fitted by maximum likelihood was used to describe hook selectivity for *Diplodus vulgaris*, *Pagellus acarne*, *Pagellus erythrinus*, and *Spondylus cantharus*.

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