

The link between migration, the reproductive cycle and condition of *Sardinella aurita* off Mauritania, Northwest Africa.



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Sardinella

Round sardinella (*S. aurita*) is an indeterminate spawner that is highly exploited by pelagic fisheries in Mauritanian waters: landings average 170,000 t per year.



Sampling

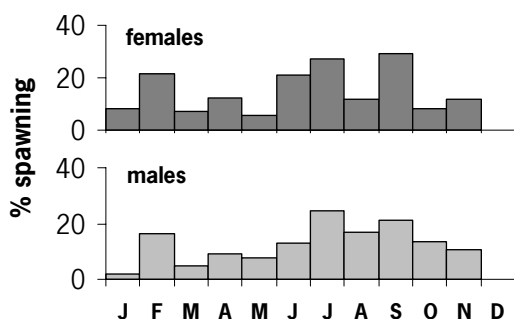
Samples were taken from commercial catches of Dutch pelagic supertrawlers during the period 2000 - 2003. Catches of these trawlers comprise 64% of the total landings in the area, 16% of the fleets fishing trips were sampled.

Migration

Round sardinella migrates annually up and down the African coast between Senegal (12°N) and southern Morocco (20° N). This migratory route is assumed to be closely linked to the large seasonal variation in the annual sea surface temperature cycle, in which a warm-water front enters the Mauritanian zone from the south in May, moving north during the summer and cooling down in wintertime again.

Spawning

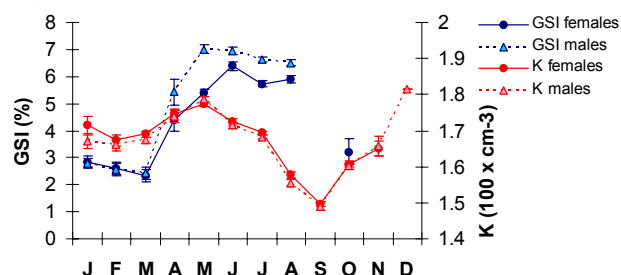
Spawning takes place throughout the entire year, but a peak exists during the summer (June-September).



Gonads & Condition

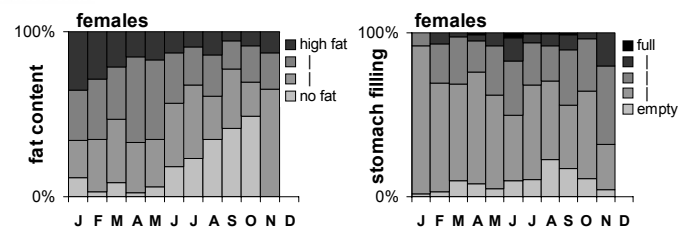
The gonads show a clear development during the months before spawning (expressed in GSI).

Accordingly, the condition of the body (K) increased before, and dropped during the peak in spawning activities.



Fat & Feeding

The fat content of both females and males strongly decreases throughout the spawning season, while stomach fullness indicate a lower incidence of feeding.



Conclusion

The migration pattern of round sardinella is clearly linked with spawning activities, judging the observed seasonality in the maturity stages, in combination with the physical condition of the fish throughout the year. From the seasonality in GSI, condition (K), and fat content, we conclude that the fish are in a good condition when entering the Mauritanian zone, use most of their reserves during the spawning activities without maintaining it through feeding, and after spawning retreat to the south in order to recover.

