The Sadinellas (*Sardinella aurita* & *Sardinella maderensis*) are among the most abundant small pelagic species in Africa with catches more than 2 million tons per year. From the perspective of food and nutritional security in term of animal protein, these species are strategic products for African populations (FAO, 1999). The two species of Sardinella (Fig 1) are coastal small pelagic fish, tolerant to low salinities in estuaries and living in schooling. They prefer clear water with temperature below $24^\circ C$, with habitat near surface or down to 350 m at edge of continental self.

**Introduction**

Round sardinella (*Sardinella aurita*, Valenciennes, 1847) & Flat sardinella (*Sardinella maderensis*, Lowe, 1839)

*Figure 1: Sardinella aurita and Sardinella maderensis (Valenciennes, 1847).*
The *Sardinella aurita* occurs Eastern Atlantic from African coast to Gibraltar and Mediterranean Sea, but rare in Black Sea, and in Western Atlantic from Cap Cod to Argentina (Fig 2a).

The *Sardinella maderensis* occurs Mediterranean Sea (southern and eastern parts, also penetrating in Suez Canal); Eastern Atlantic (from Gibraltar southward to Angola and a single recorded specimen from Walvis Bay in Namibia) (Fig 2b).

![Figure 2: Natural Geographical Distribution of the two species of Sardinella (www.aquamaps.org)](image)

**Biology**

The round Sardinellas are always schooling and are strongly migratory. They feed mainly zooplankton, especially copepods and some phytoplankton. The *S. aurita* breeds perhaps at all times of the year (e.g. in off West Africa), but with distinct peaks, e.g. mid-June - end of September, i.e. the summer months, in the Mediterranean and perhaps off North America; from about May off Senegal (but again in October-November) through to July-August off Mauritania around July or August off Ivory Coast and Ghana; but apparently September to February, i.e. the winter months, in the Gulf of Mexico (Houde & Fore, 1973). The breeding pattern is extremely complex, with two principal spawning periods in areas (linked with upwelling regimes off West Africa). The juveniles tend to stay in nursery areas (main nurseries off Mauritania and Senegal/Gambia for the West African region), but on maturity they rejoin adult stocks in the colder offshore waters. The size of *S. aurita* is 30 cm standard length, but usually size is 25cm.

The flat Sardinellas are also highly migratory and always move bench. The *S. maderensis* feeds on a variety of small planktonic invertebrates, also fish larvae and phytoplankton. The Species Breeds only once in the year, during the warm season (July-September), in coastal waters. Juveniles and adults show clear north-south migrations in the Gabon Congo-Angola sector of their range and also in the Sierra Leone-Mauritania sector, each area having nurseries. The migratory movements are correlated with the seasonal upwelling in the central part (Cote d'Ivoire-Ghana). The size of *S. maderensis* is 30 cm standard length, but usually size is 25cm.

**Exploitation**

The *S. aurita* is very exploited in Africa, where there are three distinct “shared stocks”: (i) stock of North Transitional Zone (form Mauritania to Guinea; also off Sierra Leone – perhaps with a separate stock), (ii) stock of Central Upwelling Zone (Cote d'Ivoire and Ghana) and (iii) stock of South Transitional Zone (southern Gabon to southern Angola). Major fisheries are off West Africa, in Mediterranean and off Venezuela and Brazil. The *S. maderensis* is also exploited off West African coasts, but combined with *S. aurita* in most statistics, partly because the two species are often caught together. The catches, usually frozen in blocks of 20 kg are sold in foreign markets where there is demand for this type of source of cheap protein in the countries of Eastern Europe and the major consuming countries of West and Central Africa (Senegal, Cote d'Ivoire, Nigeria, Cameroon, RD Congo ...), South America (Brazil), Asia (China) and the Middle East (Egypt).
The Sadinellas are one of the most used in fish canning industries in the world. The exploitation of small pelagic including Sadinellas supports a large number of jobs in the capture, processing and trade activities in the coastal countries in Africa.

For example in Senegal, the small pelagic fisheries sub-sector provides more than 100,000 jobs which are dominated by female workforce, especially in smoking and marketing of Sadinellas.

Reference