

SEA SNAIL FISHERIES IN THE LAST 20 YEARS

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Sea snail *Rapana venosa* Valenciennes is 1846 Eastern Asian origin species. This creature which belongs to Prosobranchia sub-class is anticipated to transport to the Black Sea by commercial vessels. It was reported for the first time in 1946 in Novorossiysk Gulf in the Black Sea. Later then it expanded to whole Black Sea and the Sea of Azov, and then in 1984 to the Aegean Sea and the Mediterranean Sea. This species is at larval stage in the Eastern Mediterranean or in Black Sea, and is anticipated to transport with the ballast waters of the commercial vessels. It is present in the Chesapeake Bay in Northern Atlantic (USA) and Uruguay, and in Argentina in South Atlantic (Koutsoubas and Voultsiadou-Koukoura 1990; Cesari and Pellizzato 1985; Harding & Mann 1999; Pastorino *et al.*, 2000).

Sea snail lives in sandy, muddy and algal environments up to a depth of 90 m and in mussel beds. It is a carnivorous creature and is known to be the most active predator of the species like oyster. In the Black Sea, there exists no predator for this species which is called occupier. It adapted itself to the Black Sea in a very short period of time and expanded there quickly.

The sea snail fishing is guided by a circular on fishing which is issued by the Ministry of Agriculture and Rural Affairs every year. In the last two decades, many changes have been done on the decisions taken in the area of sea snail fisheries. The size of dredge bag was changed from 2.5 m to 1 m in 1988; and in 1996, the fishing ban within a 200 m distance between dredge and coast was changed from 200 m to 500 m. As of 2000, it has been banned to have more than one beam trawl in a vessel. As of September 1, 2001, it has become an obligation for fishing by diving and for the beam trawl fishing vessels to obtain "sea snail fishing permit" to be issued from the relevant provincial directorate issuing boat licenses. As of 2005, sea snail fishery by diving, basket and all types of trap methods has been permitted. Sea snail fishing with all types of fishing gears was banned between May 1 and August 31 during the fishing season.

Amongst the Black Sea countries, Bulgaria, Turkey, Georgia, Ukraine, and Russia produce sea snail the most, respectively (BSEP, 2003). 90% of sea snail production is

met from the Eastern Black Sea. Sea snail started to gain commercial importance after 1985. Production exceeded 10 thousand tons in 1989 depending on the export opportunities, and gradually decreased in the ensuing years and dropped to 2000 tons. However, the production has exceeded 10 thousand tons in recent years. The total sea snail production in 2005 was realized as 13600 tons (TÜİK - Turkish Statistical Institute, 2005).



Despite the fact that sea snail is not consumed in our country, it still constitute an important export item. There is a considerable demand from the Far Eastern countries. There are 7 factories processing sea snail. According to the records of Exporters' Union, the annual export was between 500-3700 tons from 1993 until 2006, and foreign currency inflow was realized as USD 1,5-16 million (Anonymous, 2006) (Figure 1).

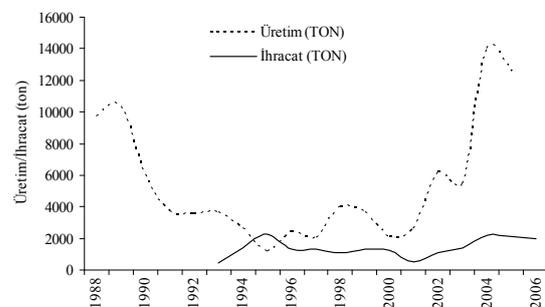


Figure 1. Amount of Production and and Export of Sea snail in the last 20 years (TÜİK, 2005; Anonymous, 2006)

In 2006, more than 70% of frozen sea snail flesh was exported to Italy and South Korea (Figure 2).

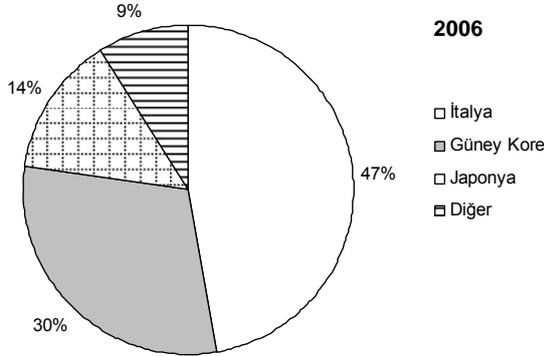


Figure 2. Sea snail exported countries in 2006 (Anonymous, 2006)

In our country, sea snail fishery is mostly done with dredge. This obstructs the mesh and selectivity is hindered; and the balance of ecosystem is disturbed (Figure 3).

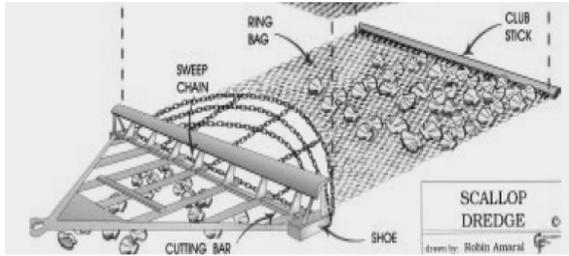


Figure 3. Dredge used in sea snail fishery

Target species (80%): Sea snail

Non-target species (20%):

Fish: rough ray, sea horse, goby, scorpion fish, sole, flounder, horse mackerel, red mullet, pipefish, whiting, turbot

Crustacea: crab, shrimp, hermit crab

Mollusks: Mediterranean mussel, sand mussel, *Chamelea gallina* (known as "cik cik" in Turkish), small gastropods

A brand new strategy should be pursued in the management of sea snail stocks which cause the decrease in mussel beds. Therefore, sea snail fishery should be extended with passive fishing gears having high selectivity (Figure 4). Sea snail fishery is very well developed in the countries like Japan, France, Canada, and the Great Britain. Sea snail fishery with dredge will be more ecological and beneficial in terms of non-target species.



Figure 4. Different trap models used in sea snail fishery

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