

HUSBANDRY OF TROPICAL BENTHONIC SHARKS *Chiloscyllium griseum*, *Chiloscyllium punctatum* and *Atelomycterus marmoratus*: FIRST STEP TO DEVELOP PROTOCOLS FOR CONTROLLED BREEDING FOR CONSERVATION PURPOSE

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ABSTRACT. In the IUCN Red List *Chiloscyllium griseum*, *Chiloscyllium punctatum* and *Atelomycterus marmoratus* are considered as “Near Threatened” species. At the present, there is a lack of information about their general biology, especially for that concerning reproductive and population structure. To this, we must add that no monitoring measures are still adopted by fishing industry in order to adopt suitable management plan for sustainable fisheries; moreover, aquarium demand for these species is actually growing (Bennett et al 2003, White 2003, Lisney 2003). Then, the development of protocols and programs in order to breed sharks can be very important for conservation purposes (Dral 1980, Garner 1998). In the Aquarium Mondo Marino the Centro Studi Squali, is actually working with the aim to get several couples of parents for the three above mentioned species in order to formalize the protocols for correct husbandry finalized to breeding. The program plans several steps: A) acclimatize young sharks, controlling feeding and growth rate, B) test different reproduction techniques C) improve eggs development D) stabilize juveniles growing. The program is granted by “Posidonia” no-profit-association.

Chiloscyllium punctatum, and *Chiloscyllium griseum* are classified in Hemiscylliidae family (Compagno 1984), they are small benthonic sharks living in corall reefs; the first species is found in little surface sea pool where can live until 12 hours. They are common in Indo-pacific Ocean until Australia coasts where are actually protected species. They are menaced by intensive industrial fishing and coastal pollution. *Atelomycterus marmoratus* is also a small benthonic shark classified in Scyliorhinidae family (Compagno 1984). Its biology and ecology are still almost unknown (Compagno 1998). The observation and study of behaviour and physiological adaptations of elasmobranchs in a public aquarium is an established a fascinating, complex and no less valid challenge in view of scientific research and conservation of biodiversity, yet to witness how important it is to use the multifaceted roles they play a public Aquarium. This is because the Mondo Marino Aquarium and Centro Studi Squali hosted in the aquarium planned to try develop protocols for controlled reproduction of some tropical and mediterranean species in order to reduce the impact in the wild and give contribution for repopulation and conservation purposes. The program shared in 4 steps (acclimatization, reproduction, eggs development, juveniles growing) is actually at the first step and trying to get several parents. First data collected between 2009 and 2011 about their growing in terms of weight and length are positive.



r	Chiloscyllium punctatum			Chiloscyllium griseum		Atelomycterus marmoratus	
	Male 1	Male 2	Fem	Male	Fem	Male 1	Male 2
	0.997 51429	0.935 54248	0.929 54842	0.994 86358	0.983 50091	0.970 38356	0.957 70731

Between December 2009 and April 2011 three pairs of juveniles sharks in three different tanks were acclimatized, fed and monitored *Chiloscyllium griseum* and *Atelomycterus marmoratus* in 2.000l tanks *Chiloscyllium punctatum*, in 250l tank. The feeding periodicity, quantity and quality was planned following the available bibliography. All sharks were fed three days per week, each week water parameters were collected and two times per month data concerning weight and length. The correspondence in terms of weight and length growth is positive as showed in the table. Unfortunately for *Atelomycterus*, at the moment just males are available but is planned to get several females in the next future. The *Chiloscyllium griseum* pair showed sexual approach from the male but the female seems not to be still available. The first step is completed and for the second step will be necessary waiting their sexual maturity.



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