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SOME BREEDING SITES OF THE NURSEHOUND  
(*SCYLIORHINUS STELLARIS*) (CHONDRICHTHYES,  
SCYLIORHINIDAE) IN ITALIAN WATERS,  
AS REPORTED BY DIVERS

ZONE DI RIPRODUZIONE DEL GATTOPARDO  
(*SCYLIORHINUS STELLARIS*) (CHONDRICHTHYES,  
SCYLIORHINIDAE) NEI MARI ITALIANI  
SEGNALATE DAI SUBACQUEI

**Abstract** - The Mermaid's Purse project collects volunteer divers' reports of nursehound egg cases, *Scyliorhinus stellaris* (Linnaeus, 1758) (Chondrichthyes, Scyliorhinidae). Preliminary results of this ongoing study are presented here and identify some breeding areas of this species. This project is an example of citizen science as a valuable tool in providing information on species seldom caught by professional fishermen.

**Key-words:** *Scyliorhinus stellaris*, breeding sites, citizen science.

**Introduction** - The nursehound, *Scyliorhinus stellaris* (Linnaeus, 1758) is a medium sized catshark, living in the NE-East Atlantic and throughout the Mediterranean Sea. Presently there is no data on population size and breeding areas in the Mediterranean, where it is patchily distributed (Ellis *et al.*, 2009), seldom caught by professional fishermen (IREPA, unpublished data) and has drastically declined in some areas, with a -99% decrease in scientific trawl surveys in the Tyrrhenian Sea in the last 20 years (Ferretti *et al.*, 2005). This species lays large egg cases (10-14 cm), also called "mermaid's purse", that take 10-12 months to hatch in captivity (Capapé *et al.*, 2006). They are highly detectable underwater and a favourite sight with SCUBA divers. The Mermaid's Purse project ([www.uovodigattuccio.it](http://www.uovodigattuccio.it)), launched in 2012, is collecting divers' sightings of nursehound egg cases in order to identify some of the as-yet unknown breeding areas of this species. Misidentification with *S. canicula* eggs can be ruled out, as this species lays smaller eggs (7-8 cm) at about 200 m of depth, thus beyond the range of scuba divers (Ellis *et al.*, 2009). On clear and easy targets volunteer divers can contribute much-needed information with direct observations, monitoring the marine environment on a scale that was previously impossible (Goffredo *et al.*, 2010).

**Materials and methods** - In this ongoing study, diving centre staff members from all Italian coastal regions are interviewed to record the presence of nursehound egg cases in local dive sites. Their observations are deemed reliable since they regularly dive the same sites for months and often years. Amateur divers are also invited to take part in the survey, but mainly for awareness reasons. Collected information includes dive site location, depth, habitat, number of eggs sighted and presence of live specimens. This project will continue over the next two years, extending interviews to technical divers regularly diving up to 90 meters of depth.

**Results** - This project received much attention within the diving community and was recently sponsored by the main dive training agencies: 123 records were collected in 6 months by diving centre staff (57%) and recreational divers (43%). Breeding areas

were reported in 9 out of 15 Italian coastal regions, including several dive sites in the Ligurian Sea (the Portofino promontory) and the Tuscan Archipelago (particularly in Elba, Giannutri and Argentario). The highest number of egg cases (estimated 5+ per dive site) was reported in the Gulf of Naples: in the Pontine Islands, Ischia, Procida, Capri and the Sorrento Peninsula. Off the northern Adriatic coast, mermaid's eggs were reported on the “tegnùe”, rocky reefs on the muddy seafloor off Venice (Fig. 1).

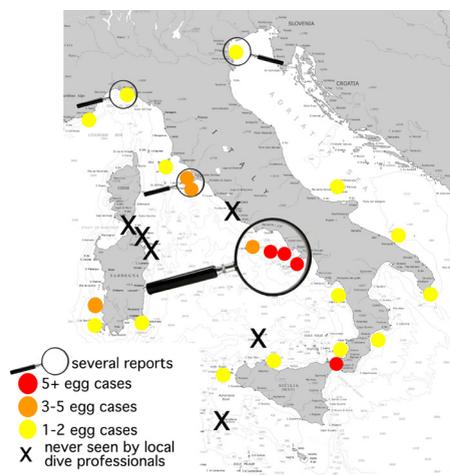


Fig. 1 - Nursehound breeding areas reported by divers and average number of eggs per dive site.

*Zone di riproduzione del gattopardo segnalate dai subacquei e numero medio di uova avvistate per punto d'immersione.*

Divers reported that egg cases are mostly laid in rocky habitats on *Paramuricea clavata*, but also on *Eunicella cavolini*, sponges, nets and wrecks, mostly between 30 to 50 m of depth, which also matches the limit of recreational SCUBA dives. Live specimens are seen 30% of the times on the same dive site, free swimming and/or in crevices; pictures provided by divers show both *S. stellaris* and *S. canicula*.

**Conclusions** - Recreational divers typically concentrate in specific areas and dive sites that are most pleasing, thus cannot provide a representative and homogeneous picture of wide areas, depths or habitats. Due to the uneven nature of sampling, areas highlighted in this project simply represent confirmed breeding areas of the nursehound. This project is another example on how citizen science can provide valuable information, especially for species that are rarely caught.

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