

# Hundreds of fish examined to detect parasitic transmission

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Credit: Asociacion RUVID

Researchers of the SAIGAS (Service for the Analysis, Research and Management of Wild Animals) Group of the Faculty of Veterinarian Sciences of the CEU Cardenal Herrera (CEU UCH) University of Valencia recently published the results of project Parapez-2 in order to

assess the transmission of parasitism among farmed and wild fish in fish farms of the Canary Islands and the Valencia region. The project is backed by the Biodiversity Foundation of the Ministry for Ecologic Transition and the Demographic Challenge by way of the PLEAMAR program, co-funded by the European Maritime and Fisheries Fund (EMFF). The research team of the CEU UCH was chosen once again by the Biodiversity Foundation to continue with this research in the third edition of the project, Parapez-3, which has just begun.

In the second edition of the [project](#), the SAIGAS research group analyzed over 11,000 underwater images of photo-traps, identifying a large variety of wild species in areas devoted to aquaculture, including major predators such as the bottlenose dolphin (*Tursiops truncatus*) or the red tuna (*Thunnus thynnus*). These images were taken at aquaculture facilities in the open sea of the provinces of Castellón and Alicante, in the Valencia region, and Lanzarote, Gran Canaria, Tenerife and La Palma, in the Canary Islands.

## **Parasitic control**

A total 557 specimens of farmed and wild Osteichthyes belonging to the participating farms have been studied. Among the most frequently found parasitic species in farmed animals, such as the bass (*Dicentrarchus labrax*), sea bream (*Sparus aurata*) or sea bass (*Argyrosomus regius*), were monogenea of the *Diplectanum* spp genus, and from species *Sparicotyle chrysophrii*, *Sparicotyle pancerii*, *Lamellodiscus echenesis* and *Calceostoma calceostoma*. According to UCH CEU Veterinary Science lecturer Jordi López Ramon, head of the Parapez project, "the presence of parasites in living beings, including marine species, is common, and a vast majority are not pathogenic. Furthermore, the amount of these that can be transmitted to human beings is very low. This is why studying them is important, to identify the type of parasites present in aquaculture and wild species, so that their impact can be

decreased and the health of the fish can be improved."

The study also reveals that among wild species there is greater parasitic diversity, with the presence of species *Axine belone*, *Atraster heterodus*, *Atrispinum acame*, *Gastrocotyle trachuri* and *Pyragraphorus pyragraphorus* among others. Furthermore, parasitosis linked to the abdominal cavity and digestive tract have only been found in wild species, both in the Valencian region as well as the Canary Islands. Among the latter, the most common were parasites belonging to phylum Nematoda, followed by phylum Acantocephala.

These results make it possible, as noted by lecturer Jordi López, for "the veterinarians from fish farms, who look out for the health and wellbeing of the aquaculture animals, to also acquire a relevant role in the preservation of marine biodiversity, implementing palliative measures to minimize the risk of dissemination of pathogenic parasites among the wild fish species of their surroundings. Our results enable us to make recommendations so they can continue contributing to the preservation of natural diversity."

## **Sampling procedures despite the lockdown**

Due to the state of alarm caused by the COVID-19 health crisis, the difficulties to take samples in this second edition of the Parapez project have been greater, "but we were fortunately able to continue with the samplings, despite these having to be less and shorter, as have been, as a result, the number of samples taken," says lecturer López Ramon.

Despite the extraordinary circumstances of this year, the CEU UCH researchers who have taken part in the "Parapez-2" project have conducted two visits to the farms of the Canary Islands, conducting a total 12 samplings; three visits to two Valencian farms in Alicante province, and two more to the other farms in the Levante area who took

part in the project, adding up to a total 10 samplings in the farms of the Valencia region.

## **Results and third edition**

The research team has published the results of the parasitological diagnosis laboratory tasks, which included preserving, staining and identifying, in the virtual event "Charlas del mar" (sea talks), which included the participation of representatives of the aquaculture sector on a national level, as well as numerous researchers linked to the aquatic and parasite worlds. And they have already initiated the tasks of taking photos and gathering samples for the third edition of the project.

The research team of the CEU UCH that takes part in the project is comprised by lecturers from the faculty of Veterinary Sciences Jordi López Ramon, Jesús Cardells Peris, Víctor Lizana Martín, Juan Manuel Lomillos, Alejandra Escudero Cervera and Patricia González González. The Association for the Defence of the Aquaculture Health in the Valencia region (ADS ACUIVAL) and from the Canary Islands (ADS ACCAN) are also linked to the project, which also relies on the collaboration of the Corporate Aquaculture Association of Spain (APROMAR) for its dissemination.

Provided by Asociacion RUVID

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