

Fish feed made with small marine crustaceans

A team of researchers at the Marine Biological Laboratory (LBM) of [University of Sevilla\(US\)](#), in collaboration with the [Institute for Agricultural and Fisheries Research and Development \(IFAPA\)](#) El Toruño registered a patent for a new natural product made with caprellids (tiny marine crustaceans) for feeding farmed fish.

"It's the first time that these species have been used as food supplement in fish feed with commercial interests," the *Foundation Descubre* informed in a statement.

Scientists emphasize that they contain a high content of protein, omega-3 and calcium, plus the ease of obtaining them in large quantities.

Caprellids measure between two millimeters and two centimetres and are essential food for wild fish - they are the exclusive diet of some cephalopods, such as cuttlefish.

José Manuel Guerra, an American scientist responsible for the patent registration explained that they analyzed their nutritional properties and production capacity in large quantities, and developed a method to keep them.

This method involves the preparation of a lyophilized of caprellid crustaceans: they are dewatered and packaged for supply in the desired dose as it is the case of small aquarium fish, turtles and larger fish of interest in aquaculture.

The patented process involves several steps, starting from the collection of caprellids in their natural environment. Then they are frozen at a temperature ranging between minus 20 and 80 degrees centigrades, and finally they are lyophilized at -50 °C for 24 hours or dried in an oven for one hour.

Once water has been removed, these little crustaceans resemble dried shrimp and can be kept in any container, without any preservative, and last for several years.

It is "a simple and inexpensive process," stresses Guerra. The main obstacle is obtaining large quantities of caprellids, a difficulty researchers have overcome.

Starting with 250 specimens, it has been possible to obtain about 15,000 in three months.

Apart from its nutritional benefits, an advantage caprellids have is that since they are "fundamentally detritus-eaters", they could be "kept in large-scale culture tanks associated with waste from fish tanks," Guerra explains.

That would be cost-effective, as feed expense would be avoided.

Besides its use in the aquaculture industry, the lyophilized caprellid could be used as a dietary supplement for athletes or people with protein deficiencies.