

THE CRAYFISH

Austropotamobius pallipes

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Crayfish recovery centre management

The Moli de les Fonts Crayfish Recovery Centre has been set up in a former trout farm. It has 22 ponds varying in size from 10 m² to 45 m² and with depths of between 70 and 100 cm. These ponds are covered with shade cloths, which protect the animals from direct sunlight to avoid any rises in temperature and provide a suitable habitat for this photophobic species. A circulation circuit ensures the water is sufficiently oxygenated and remains at a suitable temperature. The water comes from a well, in order to avoid any infections that could be transmitted by groundwater. Both physical filters and UV radiation are used to guarantee the water quality.



The Recovery Centre was created in 2005 and in 2015 it had 9 breeding pairs and 616 breeding individuals spread out over 12 different ponds, as well as 5 ponds for young crayfish.

Year	Populations	WT of crayfish
2006	5	500
2007	5	600
2008	7	650
2009	6	372
2010	6	600
2012	7	524
2013	7	602
2014	9	616

The centre's concrete ponds display characteristics typical of lentic environments, with a high primary production in the form of filamentous macroalgae or phytoplankton. The animal community can also be very productive, especially the zooplanktonic organisms, microscopic crustaceans and, to a lesser degree, macroinvertebrates.



The crayfish breeding cycle

Mating involves a notable increase in the crayfish's activity. It starts in September with the appearance of white cement glands on the female's abdomen. The crayfish start to mate in mid October, although some years they do not begin until the start of November, and mating continues until the end of this month. Eggs are laid during the month of November. The females then seek out a hiding place/hide away in a burrow or other sheltered place and remain inactive until the eggs hatch in May.



Female with eggs: 3 November to 30 May
 Egg laying: 3-11 November
 Spermatophore: 24 October to 25 November
 Mating: 21 October to 14 November
 Glands: September to 20 October

Management of the centre

The density is of 2 breeding crayfish per m², in order to try to minimise stress as far as possible so as to increase the animals' resistance to pathogens. The sex ratio is one male to every 3 females. The crayfish on the farm begin to breed after the second summer, when they reach an average length of 5-6 cm. After mating has taken place, the crayfish are handled as little as possible, in order to give them plenty of peace and quiet during the egg-laying period. The young hatch in May and are left with the adults until September, when the ponds are restructured and reintroductions and population reinforcement take place.

Their food is based on sardines, liver and boiled potatoes as well as phytoplankton and zooplankton, which breed in the ponds naturally. The crayfish farm collects data on the biology and ecology of the crayfish.



Dissemination

One of the Centre's tasks is to inform the public about the problems affecting the white-clawed crayfish. Raising public awareness is considered to be of vital importance in order to save this species. Two complementary lines of work are being carried out: informing the general public, especially schoolchildren, and training all those involved in the management and exploitation of resources linked to the continental aquatic environment. Particular emphasis is placed on the vulnerability of the species due to the arrival of the crayfish plague, and the importance of its presence in the ecosystem.



Laboratory research

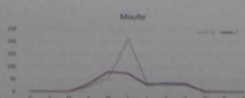
The reproductive productivity is decreased by the presence of *Saprolegnia* spp., which infect the crayfish's legs. Laboratory research is being carried out in order to discover how to neutralise the effects of this harmful fungus. Females with eggs are kept in highly stable conditions and under strict analytical control in order to attempt to find what can favour the dissemination of the *Saprolegnia* spp. Indicators obtained



Indications

Moult period

Crayfish moult various times in accordance with the individuals' sex and age. During their first summer, the young moult as many as 6 times as they grow, whilst adults generally moult twice. The moult period starts in April and lasts until the end of October. The male adults start moulting at the end of April, whilst the females do not begin until mid May, and mainly start in June. Males and females moult again in August and September.



Growth

The crayfish have proven to grow faster at the Breeding Centre than in the wild, which means they begin breeding a year earlier at the centre. The following table shows the average growth rates for crayfish at the Breeding Centre.

