

The background is a solid teal color. A large, faint, stylized silhouette of a fish is centered in the background, facing left. The fish's body is composed of several overlapping, curved shapes that create a sense of movement and depth. The overall aesthetic is clean and modern.

Decapod Crustaceans and Cephalopod Molluscs in EU Animal Welfare Legislation

December 2021

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Introduction

The sentience of decapod crustaceans and cephalopod molluscs and their ability to feel pain is well established and widely recognised. Wild capture and farming of these animals for food is going on without welfare standards. There is an urgent need to establish science based standards for the transport, slaughter and farming of decapod crustaceans, and for the prohibition of the farming of cephalopod molluscs before the sector emerges.

Recognition of Sentience



There is significant and compelling scientific evidence of decapod crustacean and cephalopod mollusc sentience and their ability to experience pain and distress. This is well established in the scientific literature, reviewed in recent reports and papers from *Compassion in World Farming*¹ and *Crustacean Compassion*², and is increasingly being reported in the mainstream media.

The European Food Safety Authority (EFSA) considers that decapod crustaceans and cephalopod molluscs have indications of sentience including complex behaviours and the capability to experience pain, suffering, and distress. Hence they are equally deserving of protection from pain and distress

as are vertebrates³.

The UK Government Department for Environment, Food and Rural Affairs (Defra) has commissioned and published an independent review of decapod crustacean and

¹ Lara, E. 2021. Octopus Factory Farming: a recipe for disaster. *Compassion in World Farming* [Link](#)

² Crustacean Compassion, 2021, <https://www.crustaceancompassion.org.uk/do-crustaceans-feel-pain> [Link](#)

³ European Food Safety Authority, 2005, Opinion of the Scientific Panel on Animal Health and Welfare (AHAW) on a request from the Commission related to the aspects of the biology and welfare of animals used for experimental and other scientific purposes, EFSA-Q-2004-105 [Link](#)

cephalopod mollusc sentience, undertaken by the London School of Economics. The review strongly and explicitly confirmed their sentience, and recommends their inclusion in all future legislation related to welfare, including but not limited to the legal recognition of their sentience in the UK Animal Welfare (Sentience) Bill⁴.

These animals are caught, and decapod crustaceans are also farmed, in the EU and are imported into the EU. They are commonly subject to poor welfare conditions and have been excluded from the protections afforded to other animals. In light of vast, compelling and robust scientific evidence of their sentience and ability to feel pain, these findings raise important moral questions about the way in which we currently keep, handle, transport, and kill these animals.

Welfare Issue and the Need for Action

Decapod Crustaceans

Farming

There is an emergent aquaculture sector producing decapod crustaceans. Major knowledge gaps have recently been closed that could enable the farming of cephalopods, and commercial attempts to farm them have been made. These sectors are anticipated to grow, potentially with the support of EU fishery subsidies.

Annual EU production of decapod crustaceans in aquaculture is around 400 to 500 tonnes and worth around 3 million Euro⁵, with one third to one half of production in Spain and a smaller but high value sector in France. EU import of crustaceans farmed in third countries is around 1.7 million tonnes annually.

Capture

Many decapod crustaceans are usually caught in baited pots or traps which are designed to enable the animals to enter but not leave, trapping them until the pots are hauled up to the boats. Some are instead trawled in nets, which introduces additional welfare challenges as well as the risk of bycatch of non-target decapod crustaceans and other species. Lobsters may also be captured by entangling or gill nets, or in small numbers, may be speared or caught by hand.



The extent of welfare compromise experienced during capture is significantly affected by the method used but can include exposure to shifts in barometric pressure, salinity

⁴ LSE, 2021, Review of the Evidence of Sentience in Cephalopod Molluscs and Decapod Crustaceans. LSE Enterprise Ltd. [Link](#)

⁵ Eurostat, 2021 [Link](#)

and temperature as well as physical trauma, injury, crushing, exhaustion, asphyxia, fear and death. They may be subject to mutilations including declawing and nicking tendons⁶.



Transport

Each year millions of live decapod crustaceans are transported within and beyond the EU for commercial purposes, during which they are subjected to journeys of widely differing environmental conditions and duration, some lasting several days.

Common transport practices expose decapod crustaceans to multiple stressors, including but not limited to inappropriate and/or fluctuating temperatures, water quality, unsuitable packaging/containment, overcrowding, stacking, air exposure, vibration, noise, light and manual handling⁷. Confinement in close proximity to others of the same or sometimes different species poses additional welfare challenges, such as fighting or

cannibalism, as they are often solitary or rarely mix in their natural habitats. The loading and unloading processes also involve exposure to stressors such as temperature change as well as air and sun exposure. As a result, the animals experience many physical (eg injuries), physiological (eg production of the stress hormone, crustacean hyperglycaemic hormone), immunological (eg disease or infection) and behavioural (eg aggression) disturbances. This inevitably causes suffering and results in high levels of morbidity and mortality both in transit, and during recovery at the destination.

Data on the transport of crustaceans is inadequate. It does not distinguish between animals loaded alive or dead, only reports cross-border journeys, and has many reporting exemptions.

Slaughter

The most obvious cause of cruel treatment is inhumane slaughter methods. Decapod crustaceans are not protected by slaughter regulations, and are routinely subjected to unnecessary suffering due to inhumane slaughter methods which would be considered completely unacceptable in a vertebrate animal. It is essential that



⁶ Crustacean Compassion, 2021, <https://www.crustaceancompassion.org.uk/mutilations> [Link](#)

⁷ Crustacean Compassion, 2021, <https://www.crustaceancompassion.org.uk/capture> [Link](#)

all decapod crustaceans be stunned effectively prior to slaughter.

Decapod crustaceans are routinely boiled alive as a method of slaughter. Whilst being boiled alive, lobsters and crabs often thrash, try to escape, and shed their limbs (a known sign of stress). It can take up to three minutes for them to lose consciousness in boiling water⁸.



Chilling decapod crustaceans (in a fridge or freezer) is commonly used in a mistaken attempt to stun them before slaughter, yet there is increasing evidence that this is ineffective. Whilst this process may make the animal appear still, there is no evidence to suggest that it induces unconsciousness or anaesthesia, rather than just paralysing them⁹. In fact, chilling decapod crustaceans before boiling them increases the time taken for them to lose consciousness and die in the boiling water, thus prolonging the suffering. There is clear evidence that chilling is ineffective and has negative welfare impacts as a killing method¹⁰.



Killing of marine decapod crustaceans by placing them in freshwater (freshwater drowning) should not be undertaken due to the prolonged suffering it causes due to severe osmotic shock. This practice results in aversive behaviour and is very likely to cause pain and distress. Marine crabs placed in fresh water become immediately motionless and rigid for 10 minutes, but this is followed by high activity and autotomy, indicating stress/distress. They also tear at their abdomens and legs and take 3-5 hours to die¹¹.

Manual dismemberment of live decapod crustaceans causes severe and prolonged suffering and should never be undertaken. The removal of body parts from any conscious decapod crustacean causes severe mental and physical suffering until death eventually ensues.

All of these techniques have been described as inhumane by the European Union's Scientific Panel on Animal Health and Welfare (AHAW) (EFSA, 2005). Humane stunning and slaughter solutions are available, and simple steps can be taken to ensure the welfa-

⁸ Roth, B., & Øines, S. 2010. Stunning and killing of edible crabs (*Cancer pagurus*). *Animal Welfare*, 19(3), 287-294

⁹ Mood, A., 2014. Welfare during Killing of Crabs, Lobsters and Crayfish. *Fish Count*. [Link](#)

¹⁰ Conte, F., Voslarova, E., Vecerek, V., Elwood, R.W., Coluccio, P., Pugliese, M and Passantino, A., 2021. Humane slaughter of Edible Decapod Crustaceans. *Animals* 11, 1089.

¹¹ Gardner, C. 1997. Options for humanely immobilising and killing crabs. *Journal of Shellfish Research* 16(1), 219-224.

fare of decapods by food businesses¹².

Based on current scientific evidence, the following methods are also inhumane and should not be used on decapod crustaceans¹³:



- High pressure processing
- High salt solution
- CO2 gassing
- Chemical anaesthetics

Cephalopod Molluscs

Cephalopods are solitary animals that are highly inquisitive, intelligent, and carry out complex behaviours and interactions with their environment. There is scientific evidence of octopuses' substantial perceptual ability, emotional responses, long- and short-term memory, complex cognition, individual differences, deception, tool use, and social learning. Octopuses have been observed carrying coconut shells that they use as mobile dens and as protective shelter against predators. The most iconic evidence of their behavioural flexibility is their ability to camouflage. They are able to modify skin patterning

texture, and body posture to disguise themselves as moving algae or a rock and they can do it within milliseconds.

The anti-predatory strategies exhibited by cephalopods involve learning and require decision-making guided by prior experiences¹⁴.

The complex behaviour patterns of octopus species indeed suggest



that they are highly intelligent animals. The barren and confined conditions of farming systems create a high risk of poor welfare, including aggression and cannibalism. The nutritional needs of these carnivorous animals creates demand on wild capture fisheries to supply feed inputs, with problematic animal welfare and biodiversity consequences. Still our insights are limited and our overall understanding of their needs is poor with many knowledge gaps, and there is no way to meet their needs in a farming system¹⁵.

¹² Crustacean Compassion, 2021, <https://www.crustaceancompassion.org.uk/slaughter> [Link](#)

¹³ Crustacean Compassion, 2021, <https://www.crustaceancompassion.org.uk/slaughter-policy> [Link](#)

¹⁴ Lara, E. 2021. Octopus Factory Farming: a recipe for disaster. Compassion in World Farming [Link](#)

¹⁵ Lara, E. 2021. Octopus Factory Farming: a recipe for disaster. Compassion in World Farming [Link](#)

They are physically delicate creatures that are easily injured through handling, interactions and collisions that would be expected in farming conditions. Further, there is no scientifically validated method available for effective stunning or protecting their welfare at slaughter¹⁶.

There is capture based aquaculture of octopus in Europe. The difficulties in meeting the environmental and behavioural needs have resulted in high mortality rates¹⁷. There has been a drive to research and control the reproduction cycle and move octopus farming to aquaculture in land based tanks, which has now been achieved in laboratories and is being explored for commercial aquaculture.

'We are convinced that high-welfare octopus farming is impossible.'¹⁸

Policy Coherence

As is stated in Article 13 TFEU Union law must recognise the sentience of animals. The Council Conclusions of December 2019 invite the Commission to 'assess the need for and impact of new legislation covering all animal species kept in the context of an economic activity for which specific animal welfare legislation does not exist at present', and the Farm to Fork Strategy refers to animal welfare broadly. Therefore, decapod crustaceans and cephalopod molluscs should be recognised as sentient and included in EU animal welfare legislation.

These animals need protection if the EU is to have world leading animal welfare standards. Decapod crustaceans are protected in other countries including Austria, Switzerland, Norway, New Zealand, some Australian states and territories, and some German and Italian cities¹⁹. In these places, practices such as boiling them alive are illegal. The EU and New Zealand are currently aiming at equivalence in animal welfare standards in the context of trade negotiations, and action is required to align EU animal welfare and trade policies. EU legislation governing the use of animals used in science already protects cephalopod molluscs, and action is required to align EU animal welfare and environmental policies.

Cephalopod molluscs are carnivorous. An emergent octopus farming sector would be opposite to the EU's objective that aquaculture diversifies into non-fed and low trophic species with a lower environmental footprint²⁰.

¹⁶ Lara, E. 2021. Octopus Factory Farming: a recipe for disaster. Compassion in World Farming [Link](#)

¹⁷ LSE, 2021, Review of the Evidence of Sentience in Cephalopod Molluscs and Decapod Crustaceans. LSE Enterprise Ltd. [Link](#)

¹⁸ Birch , J. et. al., 2021, Review of the Evidence of Sentience in Cephalopod Molluscs and Decapod Crustaceans, London School of Economics and Political Science

¹⁹Crustacean Compassion, 2021, The case for the legal protection of decapod crustaceans. [Link](#)

²⁰ Strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030, European Commission, [Link](#)

Eurogroup for Animals calls for the legal recognition across the EU animal welfare acquis of the sentience of decapod crustacean and cephalopod molluscs. The revision of the transport and slaughter regulations should include new provisions for decapod crustaceans. The revision of the General Farming Directive should include these animals within the scope of a new regulation, immediately prohibiting cephalopod farming, and foreseeing the future inclusion of specific provisions for decapod crustaceans.

Transport Recommendations

- Live transports should be replaced as far as possible by the transport of meat and carcasses.
- Establish legal standards including codes of practice to meet species-specific welfare needs for decapod crustaceans during transport²¹.

Slaughter Recommendations

- Decapod crustaceans should only be slaughtered using methods that result in either instantaneous death or instantaneous insensibility to pain and distress until death occurs. Boiling alive, slowly raising the temperature of water, separation of abdomen or head from the thorax, and freshwater immersion should be prohibited.
- Decapod crustaceans should be effectively stunned prior to slaughter, regardless of the slaughter method used.
 - Decapod crustaceans should only be stunned using methods that result in instantaneous (within 1 second) insensibility to pain and distress or where insensibility is induced without causing pain and distress.
 - Electrical stunning is the most effective option currently available for rendering decapods instantaneously insensible, including crabs, lobsters, crayfish and shrimp²². It must be followed by a swift and effective killing method.
 - Mechanical killing of decapod crustaceans can result in relatively swift, although not usually instantaneous, death. Methods include the 'spiking' of crabs and the 'splitting' of lobsters, with techniques varying according to the layout of the ganglia in each species. A high level of skill is required to achieve accurate and speedy application of these techniques and the animal should be effectively stunned first.

²¹ Eurogroup for Animals, 2021, Live Animal Transport: Time to Change the Rules. [Link](#)

²² Crustacean Compassion, 2021, <https://www.crustaceancompassion.org.uk/slaughter> [Link](#)

- Slaughter processes should be carried out by competent personnel. Live animals should not be sold to untrained, non-expert handlers, and especially should not be sold to consumers for home killing.

Farming Recommendations

- Consolidate existing knowledge on the welfare needs of decapod crustaceans with a view to making legislative proposals and stimulating the closure of remaining knowledge gaps.
- Eyestalk ablation of decapod crustaceans should be prohibited.
- The farming of cephalopod molluscs should be prohibited.

Capture Recommendations

- Mutilation of decapod crustaceans should be prohibited, including declawing and nicking/cutting tendons.
- Capture periods, capture depths, ascent rates and on-board handling should be minimised.
- With cephalopods, until stunning methods are developed, an effective slaughter method should be applied as quickly as possible.
- Standards including codes of practice to meet species-specific welfare needs during live storage should be established. When not stored alive, and until stunning methods are developed, an effective slaughter method should be applied as quickly as possible.
- Nets should be knotless.
- Bottom trawling should be prohibited.
- Pots and traps should be designed to minimise opportunities for animals to cling to netting, including through the use of smooth surfaces and inserts.
- Pots and traps should have biodegradable escape panels.

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