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AMINO ACIDS AS PHAGOSTIMULATORS IN HYAS ARANEUS AND ODONTASTER VALIDUS – TWO MARINE NECROPHAGOUS INVERTEBRATES FROM THE ARCTIC AND THE ANTARCTIC

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Marine invertebrates generally use chemoreception to gather information about their environment – favorable habitats, mates, food, predators or competitors. Experiments were carried out to study the behavioural responses of two marine invertebrates – the Antarctic sea star *Odontaster validus* and the Arctic crab *Hyas araneus* to their natural food odour and two potential phagostimulators (glutamic acid and arginine).

Laboratory experiments on the sea star *O. validus* were carried out at the Arctowski Station (King George Island, South Shetlands, Antarctica). Experiments on the crab *H. araneus* were done in Barentsburg (Grønfjorden, Spitsbergen, Arctic).

Both species showed no behavioural response to pure sea water, but all of them responded to the natural food odour (fish muscle meat extract) by displaying several types of reaction (tube foot waving, arms raising, arms waving and locomotion for *O. validus*; maxillipeds movements, chela probing, first pair of walking legs movements and locomotion for *H. araneus*). Single amino acids (glutamic acid and arginine) were detected by invertebrates tested, although their reaction was significantly weaker than their reaction to meat extract. Both species response to glutamic acid was visible stronger than their reaction to arginine (e.g. higher mean number of behavioural reaction types displayed simultaneously, longer duration of reaction time).

O. validus and *H. araneus* showed the ability to react and initiate food finding processes in response to fragmentary information carried by single amino acids such as glutamic acid.

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