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Internal brooding as a beneficial reproductive strategy for sea anemones in the intertidal zone

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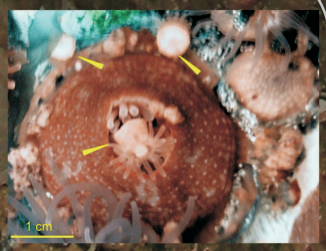
INTERNAL BROODING

Brooding sea anemones have been mostly reported for the intertidal zone. Although reproduction in sea anemones has been frequently studied, there is still a lack of consensus on the relationships between reproductive strategies, habitat characteristics and spatial structure.



STUDY SITES

We analysed spatial structure and species composition of aggregations of sea anemones found in the intertidal zone of the Barents Sea at 69°N, 36°W (Dalnie Zelentsy, Russia) in late July and August 2007, 2008 and 2011 from seven localities. The study sites differed in waving intensity and the structure of coastline.

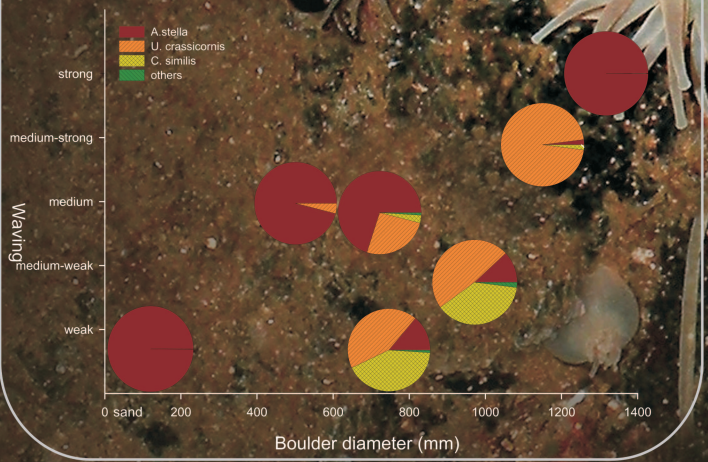
STUDY ANIMALS

Aulactinia stella - boreal species that releases fully developed anemones through tentacles.

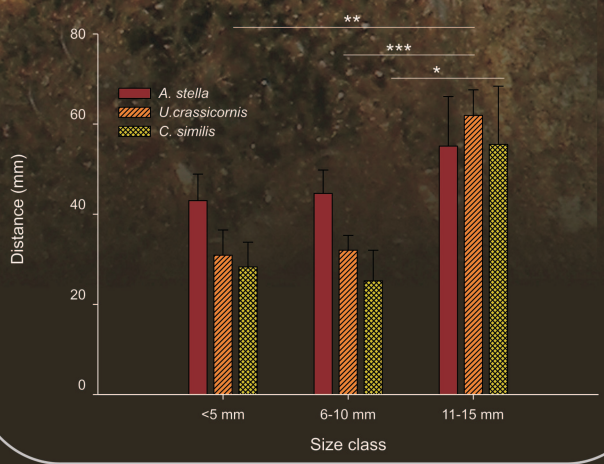
Cribrinopsis similis - boreal-arctic species that releases fully developed anemones through mouth.

Urticina crassicornis - boreal-arctic species that releases fully developed anemones through mouth.

SPECIES COMPOSITION IN RELATION TO WAVING INTENSITY AND BOULDER DIAMETERS



DISTANCE FROM PARENTS TO YOUNG ANEMONES FROM THREE SIZE CLASSES



Internally brooding sea anemones dominate in the intertidal zone of the Barents Sea and differ in the habitat preference. *A. stella* appeared to be the most resistant species to wave action and able to inhabit the sandy ground.

U. crassicornis prefers large boulders providing shelter and it occurs in dense aggregations.

C. similis avoids sites exposed to waves. It often occurs in aggregations.

Juveniles released by parent individuals settle in nearby places. The distance between a parent individual and their juveniles increases with increasing size of the juveniles in the aggregation.