

## ANTHOZOA CARE

**PURPOSE:** To describe the method of care for anthozoans.

**PURPOSE:** To describe the method of care for amphipods.

**POLICY:** To provide optimum care for all animals.

**RESPONSIBILITY:** Collector and user of the animals. If these are not the same person, the user takes over responsibility of the animals as soon as the animals have arrived on station.

**PROCEDURE:** At present there are 12 species of anthozoans that are found around BMSC.

Species:	Aggregating anemone	<i>Anthopleura elegantissima</i>
	Green Surf Anemone	<i>Anthopleura xanthogrammica</i>
	Brooding anemone	<i>Epiactis prolifera</i>
	Plumose anemone	<i>Metridium senile</i>
	Swimming anemone	<i>Stomphia coccinea</i>
	Sand-rose anemone	<i>Urticina columbiana</i>
	Orange Cup coral	<i>Balanophyllia elegans</i>
	Orange sea pen	<i>Ptilosarcus gurneyi</i>
	White-spotted Rose Anemone	<i>Urticina lofotensis</i>
	Fish-Eating Anemone	<i>Urticina piscivora</i>
	Stubby Rose Anemone	<i>Urticina coriacea</i>
	Painted Anemone	<i>Urticina crassicornis</i>
	Tube Anemone	<i>Cerianthus membranaceus</i>

**Identification:** Refer to Eugene N. Kozloff's book, "Seashore Life of the Northern Pacific Coast" and Gotshall's "Guide to Marine Invertebrates: Alaska to Baja California" for in depth descriptions of individual specimens.

*Anthopleura elegantissima:* The most ubiquitous anemone along the Pacific coast, aggregating on rocks especially where sand and shell fragments accumulate. The anemone column is studded with little tubercles. Tubercles and column are olive green, conferred by unicellular algae that live symbiotically in the anemone tissues. Tentacles are clear and tipped with pink.

*Anthopleura xanthogrammica:*

*Epiactis prolifera:* A small anemone, usually only 3cm tall when fully extended. It is commonly brown to greenish brown, but may be red, pinkish, or dull green when found on rocks, and green, blue, or purple when found on eelgrass. The oral disk and column are generally marked with radially arranged white lines. It is known for its unusual life history strategy of brooding its young on its pedal disk.

*Metridium senile:* Abundant in areas protected from strong wave action. It is commonly attached to floats. May attain a height of 25cm or more. Can be white, tan, brownish orange or other similar colors. Has hundreds of relatively small tentacles.

*Urticina columbiana:* Sand dwelling animals, that can be up to 15cm in diameter. Tentacles and column are usually greenish-gray or olive gray, and tentacles may have a reddish suffusion. The column is also streaked with red or can be entirely red.

*Urticina lofotensis:* Their irregular white spotting on a bright pink column is distinctive.

*Urticina piscivora:* A deep maroon column with no markings and either a white or red oral disc are the distinctive features. Juvenile specimens are much brighter and look quite different. It is one of the largest Northern Pacific sea anemones. *Urticina coriacea:* This is a fairly large anemone with a

diameter to about 6 inches. The column ranges from brick red to bright red but is rarely visible because sand and bits of shell cling to and cover it. Tentacles are short, blunt, and banded, often red and gray. Found in areas of coarse sediment low in the intertidal of rocky beaches and divers can find it to a depth of 50 feet.

*Urticina crassicornis*: This is a relatively large anemone. Its open crown of tentacles may be 10 inches across. The stalk may be solid red, cream, or brown or it may be blotched olive green and red. The tentacles are thick and blunt with bands of color. Found in low in the intertidal in protected areas such as under rock ledges.

*Balanophyllia elegans*: Fairly small but bright orange cup coral. The tentacles are barely tinged with orange and almost transparent. Looks like a squat sea anemone, about 2cm in height and diameter. Tentacles bear nodules loaded with stinging cells. Often found in very exposed situations in dark conditions such as caves.

*Ptilosarcus gurneyi*: Plumose sea pen pale to rich orange in color. It has a fleshy stalk and feather-like branches. The buried portion consists of a bulbous-shaped peduncle, which comprises about half the animal. It can reach 46cm in height. When disturbed, the sea pen produces a greenish luminescence. It is preyed upon by several species of nudibranchs.

*Cerianthus membranaceus*: Brown in colour with very long tentacles. It is encased in a tube which is buried. Many can be found together forming huge fields on level soft substrates. Some may reach nearly 2 ft (60 cm) in length.

**Sites:** Intertidal and subtidal sites are found on the shores of the Deer Group Islands, Dixon I., Scott's Bay, off the Blowhole, along Grappler Inlet and at the Harbor mouth across from Aguilar Pt.

*Anthopleura elegantissima*: Intertidal on rocks

*Anthopleura xanthogrammica*: Intertidal and shallow subtidal on rocks

*Epiactis prolifera*

*Metridium senile*: Subtidal, often attached to floats and the docks and piling around BMSC

*Urticina columbiana*: Sand dwelling

*Urticina lofotensis*:

*Urticina piscivora*:

*Urticina coriacea*: Found in areas of coarse sediment low in the intertidal of rocky beaches and divers can find it to a depth of 50 feet.

*Urticina crassicornis*: Found low in the intertidal in protected areas such as under rock ledges.

*Balanophyllia elegans*: Subtidal, attached to rocky surfaces often found in very exposed habitats in dark conditions such as caves.

*Ptilosarcus gurneyi*: Found on sandy bottoms at depths of between 8m and 100m

*Cerianthus membranaceus*

### **Collection Methods:**

grab/collection bag to hold plastic bags

green bucket with lid to hold during transport

*Anthopleura elegantissima*, *Anthopleura xanthogrammica*, *Epiactis prolifera*, *Metridium senile*, *Stomphia coccinea*, *Urticina columbiana*, *Urticina lofotensis*, *Urticina piscivora*,

*Urticina coriacea*, *Urticina crassicornis*: Can be collected either by hand intertidally or scuba/skin diving.

Hand: small buckets with handles for carrying

Scuba: plastic bags to hold water and animals

*Balanophyllia elegans*: Must be collected with the rock that they are attached to.

*Ptilosarcus gurneyi*: Gently dig animal out of sediment

*Cerianthus membranaceus*: Gently dig out of sediment. May be as long as 2ft so a lot of digging may be necessary.

**Holding:** Held in continually flowing seawater. Inflow must be adequate and directed to provide a current. Lids are not necessary.

*Anthopleura elegantissima*, *Anthopleura xanthogrammica*, *Epiactis prolifera*, *Metridium senile*, *Stomphia coccinea*, *Urticina columbiana*, *Urticina lofotensis*, *Urticina piscivora*,

*Urticina coriacea*, *Urticina crassicornis*, *Balanophyllia elegans*: All like a moderately high water flow. Provide rocks (or Petri dishes for experiments) for them to attach to if they have become unattached.

*Ptilosarcus gurneyi*: Provide at least 3 inches of sandy/small shell sediment for animal to dig in.

*Cerianthus membranaceus*: Provide at least 4 inches of muddy/sandy sediment for animal to dig into.

**Feeding:** All anemones are carnivorous and feed primarily on small crustaceans and other animals.

Chopped fish or mussels are adequate food. Large anemones can be fed every 5 to 8 days. Plumose anemones can only eat very small animals, large zooplankton is preferable. Corals, burrowing anemones, and sea pens are filter feeders and feed on small planktonic animals. Filter feeders should be fed at a minimum of every 3 days.

**Tank Cleaning:** Once every two weeks the anthozoans should be removed from the tank and placed into a holding bucket. The tanks should be drained and the sides and bottom should be scrubbed and rinsed with warm freshwater. The tanks should then be rinsed with cold seawater and allowed to refill, and the anthozoans replaced. Burrowing anthozoans need not be removed when cleaning tank. Just circulate the top inch of sediment and then siphon off detritus from top layer of sediment.

Anesthetic: MS222

Euthanasia: Bubbling CO<sub>2</sub> through water.

**Return of Animals:** Anemones must be attached to a rock when they are returned, otherwise they will be swept away by the tide. Alternatively, intertidal ones can be placed in a tidepool and left to reattach as long as they have 3-4 hours to do so before the tide comes in.

#### **DAILY ACTIVITIES:**

1. Ensure water is flowing into the tank at a reasonable rate.
2. Ensure the standpipe is in place and not blocked.
3. Check for and remove and dead animals.
4. Check for and remove any uneaten prey organisms.
5. Check for and remove and foreign organisms.