NSCG Newsletter

Title: Points to think about

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pp. 203-242) this reaction is brought about by the anemone's SS2 endodermal nervous system (see below) which partly controls mouth opening and requires Mg^{2+} cations to block the Ca^{2+} channels and prevent associated nerve endings from firing. In this blocked state the anemone will die and many start to autolyse and decompose which leads to problem 3.

3. Determination of the end point (EP) of narcotisation where a narcotised anemone no longer reacts to any stimulus but is still perfectly intact and has not started to decompose. Visible decomposition normally occurs after about 20 minutes after EP has been attained so that exact estimation or recognition of EP condition is essential. Since it is almost impossible to recognise such a narrow time parameter, coupled with the risk of causing closure by premature fixation or losing the specimen as it autolyses, the problem can only be easily overcome by placing the container of narcotised specimens into a deep freeze approximately 30 minutes before EP is estimated to be achieved. This also has the effect of enhancing narcotisation but can only be effectively carried out with pre-cooled specimens. Room temperature experiments will need to be moved to a cooler environment at least one hour before EP. Introduction of a fixative may also cause tentacle shrivelling due to osmotic syneresis especially noted in (*Anemonia viridis*). Introduction of fixative at low dilution levels has been found to be too slow to halt autolysis.

Narcotising techniques ideally need to be capable of accommodating these problems without becoming too cluttered with physical inducements to keep the specimens from closing. Workers in the field can then carry out effective narcotisation without the burden of complex equipment.

The species narcotised in these experiments are listed below in order of decreasing ease of induction to EP:

Calliactis parasitica, Adamsia carciniopados, Anemonia viridis, Edwardsia tuberculata, Corynactis viridis, Caryophyllia smithi, Cereus pedunculatus, Actinia equina, Urctina felina, Actinia fragacea, Metridium senile (see below) and *Bunodactis verrucosa*.

Specimens of *Sargatia* spp. were not found in sufficiently large numbers for experimentation and there were only enough specimens of *Metridium senile* for one experiment.

RELEVANT NERVOUS SYSTEM PHYSIOLOGY

Muscular actions in Actiniaria are controlled by the following four nervous systems that act independently or interact with each other.

1. Through-conducting nerve net (TCNN) controls fast or slow contractions, caused by stimuli throughout the entire animal.

Points to think about

- MGC standards for collection care require an automatic fire detection and alarm system to BS 5839.
- Although all UK public buildings are required to have a fire alarm, it may only be a manual system and not automatic, i.e. if there is a fire the alarm has to be set off manually and serves only to make people inside the building aware of the need to evacuate; it may not call the fire brigade. If a fire breaks out at night in a building with this kind of alarm, the fire brigade will only be summoned if someone else notices the fire and dials 999.
- Some intruder alarm systems with infra-red motion detectors may pick up the movement of smoke. Break glass detectors would presumably be activated if an arsonist broke a window.
- If you have smoke and heat detectors in your building, check that the calling system is automatic.
- If a building move is on the cards, a new wired-in automatic fire detection system (an expensive short-term investment) is radio operated and portable. Re-useable systems can be supplied by some companies.
- What sort of fire station serves your area? In remote areas, some fire stations are operated by volunteer fire crews on call and will therefore take longer to respond since the fire crew (like lifeboat crew) are called by pagers from another place of work.
- A system incorporating sprinklers is the best safeguard against fire damage. The volume of water discharged by sprinkler heads over the immediate area of the fire is far less damaging than the several hundred of gallons per minute pumped by fire hoses.
- Halon systems are also very effective but under Montreal Protocol on CFCs can no longer be installed as new.

Further information from:
MGC Standards for Biological and Geological Collections (Numbers 2 and 3) include a very thorough standard for the protection against fire with a list of sources of advice and help.

Kate Andrew

Next Issue: Flood