

## Introduction

This series of investigations involves the growth and reproduction of brine shrimps. Although these animals have a fairly short reproductive cycle, investigations may take several days, and it will be necessary to maintain a stock tank with an established culture to provide animals at various stages of development for the experiments.

More detailed instructions are available in the book *Brine Shrimp Ecology* by Michael Dockery and Stephen Tomkins, published by the British Ecological Society (BES). Further information is available on <http://www.demon.co.uk/bes>. The postal address is BES, 26 Blades Court, Deodar Road, Putney, London SW15 2NU.

The stock culture may be set up in a large bottle or an open tank with a cover (more convenient). This should be kept in a sunny and warm position, ideally thermostatted at 28°C. Fresh algal and microbial cultures are needed to start this tank. These may be obtained from:

Homerton Brine Shrimp Project, Department of Biological Sciences, Homerton College, Cambridge CB2 2PH  
Advice on their use is available on 01223 507175.

Brine shrimp egg cysts are available from most pet shops. Once the tank is established, dormant egg cysts can be collected from the sides of the aquarium. The base of the tank should be covered with a mixture of sand and crushed seashells or limestone. This becomes impregnated with microbes. When setting up smaller bottles or beakers for individual experiments, about 30cm<sup>3</sup> of this material should be added for each litre of water. This provides the starter culture for the experiment. These small vessels may need to be set up a day or two before they are to be used, in order to let algal growth become established.

For making the salt water (about 2.8% by mass) sea-salt is better than plain sodium chloride since it contains extra nutrients. Salt for marine aquaria is even better, but more expensive. Brands available from garden centres and pet shops include Instant Ocean, Forty Fathoms, Kent Marine and Tropic Marin.

Baby Bio or Liquizell (obtainable from aquarium or pet shops) provide food for newly hatched shrimps. If it is decided to investigate the effect of pollution with herbicides it is recommended to purchase 1% Simazine solution from Homerton College.

## Safety

Eye protection should be worn during all practical activities. Pupils should wash their hands after each session. Spills should be wiped up any immediately. Pupils should observe normal care when working with glass apparatus.

Shrimps should be handled gently; their legs are particularly fragile. They can be transferred from one vessel to another using soft plastic pipettes or sieves, but should not be allowed to dry out. Each of the materials supplied from Homerton comes with risk assessment information.

Shrimp colonies can survive for long periods, because nutrients are recycled. However, they do occasionally fail. If there are large numbers of dormant egg cysts and shrimp numbers are falling, a replacement colony can be started using some of the material from the bottom of the tank, fresh salt water and shrimp eggs.