

# APPENDIX D:

## Some Preservation Methods

### Preserving Invertebrates

**Sponges.** Fix in 90% or absolute alcohol for 24 hours; then store in 70% to 90% alcohol. (Do not use formalin, which destroys the spicules.)

**Flatworms.** Drop Bouin's fluid over well-expanded specimens, wash in 70% alcohol, and store in 70% alcohol.

**Nematodes.** Fix in very hot 70% alcohol or 5% formalin. When they have cooled, store in the same kind of fluid with 5% glycerin added.

**Crustaceans.** Kill by adding formalin to their water up to 5% strength. Then store in 70% alcohol or, better, in 20% solution of glycerin in 70% alcohol.

**Insects and Spiders.** Drop into 70% alcohol. Store in 20% solution of glycerin in 70% alcohol.

**Earthworms.** Kill with chloroform water or narcotize in 0.2% Chloretone or 0.08% MS222. Store in 5% formalin or 70% alcohol.

**Most Molluscs, Echinoderms, Annelids, Brachiopods, Cnidarians, and so on.**

Narcotize slowly until they are well relaxed (Appendix 1). Store in 5% formalin or 70% alcohol (see below for sea cucumbers). Sea urchins should have a small hole made in the shell or in the peristomial membrane to let in preservative. Sea cucumbers can be relaxed in anoxic seawater (see Appendix 1); or, if in a hurry, should be grasped firmly with blunt forceps just behind the tentacles to prevent their retraction and then plunged into 5% formalin for a few minutes; then inject 70% alcohol into the cloacal opening and through the body wall; preserve in 70% alcohol (never preserve in formalin which will dissolve the body-wall ossicles, which are required for identification).

Hemichordates and tunicates should be narcotized slowly and preserved as noted above. Pelagic tunicates need not be narcotized; they can be placed in seawater made up to 5% formalin. Amphioxus can be plunged directly into Bouin's fixative without prior narcotization and left for 24 hours before being transferred to 70% alcohol.