

BIOLOGICAL CLASSIFICATION OF MARINE ORGANISMS

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MMB 3314: BIOLOGICAL CLASSIFICATION OF MARINE ORGANISMS



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**Universiti Malaysia Terengganu
2020**



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Storage of Biological Collection



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Content:

This slide discusses the nature of biological collections and outlines strategies for their long-term care and preservation.



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*Remember:
The basic reason for maintaining
biological collections
is to promote their use in both
science and education.*

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How should I manage biological collections?

- **Manage collections to ensure that they are available for use.**
- To provide proper care, document and use the best:
 - preservation methods
 - preservation materials
 - collection environments
 - handling practices
 - storage designs
 - emergency salvage and response procedures
 - condition reporting
 - collection treatments



Overview



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Includes the four basic stages of preservation:

1. **Stabilization,**
2. **Processing,**
3. **Storage, and**
4. **Maintenance.**

Preservation



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- **Stabilization:** preservation activities associated with halting active deterioration and minimizing the risk of loss, damage, or disorder as it relates to the specimen and its associated information.
- **Processing:** preservation activities beyond stabilization that are related to making the specimen available for use.
- **Storage:** preservation activities associated with housing of the specimens for the sake of access, organization, and protection.
- **Maintenance:** preservation activities associated with corrective actions in response to a real or perceived problem.

Storage of Biological Collections



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To ensure proper storage, consider:

- Container for the specimen
- Location
- Security
- Organization
- housings
 - storage designs
 - storage systems
 - storage materials

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How should I organize biological collection?



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- following disciplinary standards that comply with the most recently accepted classification system for the taxonomic group in question
- based on a progression from primitive to complex forms, often reflecting a described classification system
 - begin subdivisions within the broadest pertinent taxonomic division (phyla or class)
 - continue the phylogenetic arrangement at least to the family or subfamily level
- Below these levels it is common to use an alphabetic arrangement:

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What materials should not be used for storage of biological specimens?



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- Polystyrene
- polyvinyl chloride (PVC) plastics
- polyurethane foams and oil-based polyurethane varnishes
- synthetic polymers containing unstable plasticizers or other additives
- alkyd enamel paints
- bakelite (a hard, black plastic), which decomposes when exposed to alcohol and/or formaldehyde vapor
- acidic paper products
- alkaline-buffered paper products
- wood and most wood products

Maintenance of Biological Collections



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- updating information
- housekeeping in storage and exhibit areas
- emergency preparedness, response, and salvage
- specimen cleaning
- specimen treatment
- pest management

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Can I keep different wet biological specimens together in the same container or room?



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- No.
- Various specimen components leach into the fluid. If you **mix specimens** you **risk cross contamination**.
- **This will damage the utility of the specimens for biochemical studies.**
- Don't store specimens together in the same container unless they are of the **same species or lot** and **were collected** in the **same place** and at the **same time**.



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Thank you

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