



**Culture of Aquatic  
Invertebrates**

# Aquatic Invertebrates

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- **Invertebrates account for 95% of animal species.**
- **Aquatic invertebrates spend most or all of their time in the water.**
- **Aquatic invertebrate culture is dominated by two phyla.**
  - Molluscs
  - Crustaceans

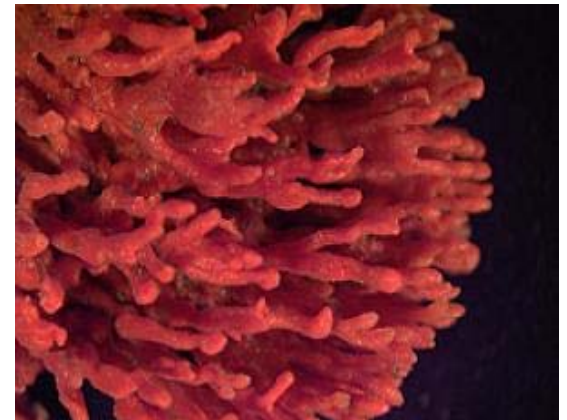


# Aquatic Invertebrates



## 6 Different Phyla

- **Porifera**
- **Echinodermata**
  - Sea cucumbers
  - Urchins
- **Cnidaria**
  - Corals
  - Sea Anemones
- **Annelidea**
  - Blood Worms
  - Feather Dusters
- **Mollusca**
  - **Gastropods**
  - **Bivalves**
- **Crustacea**



# Aquatic Invertebrate Market

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- Human Consumption
- Biomedical Research
- Ornamental – Fish Tanks
- Decorative – Sponges, Pearls, Shells

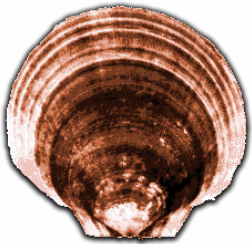


# Molluscs

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## Bivalves

- Filter Feeders
- Market is mostly for human consumption.



**Scallops**

**Hard shell Clams**

**Mussels**

**Softshell Clams**

**Oysters**

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## Gastropods

- Various Diets
- Market is mostly for decorative purposes.
- Are susceptible to overfishing.



**Spotted Babylon**

**Trochus**

**Green Snail**

**Abalone**

**Conch**

# Bivalve Culture

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- **Collection of Broodstock**
  - From hatcheries
  - Natural Spatfall
- **Nursery**
  - Upweller Systems
- **Recruitment to Benthos**
  - Ropes
  - Bags
  - Ropes
  - Plates

# Crustaceans

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- **Extremely valuable market.**
  - 3,680 Thousand tonnes produced 2004
  - Accounting for 14,361million US Dollars (FAO)
- **Market mostly for human consumption.**
- **Dominated by marine shrimp. But includes..**
  - Crayfish
  - Prawns
  - Lobsters



American lobster, *Homarus americanus*



# Shrimp Pond Culture

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- **85 % of shrimp are cultured in Asia**
- **Most shrimp farming still occurs in traditional pond farms and have low technology and low yields**
- **Shrimp fry are trapped in ponds at high tides or stocked.**
- **Where they grow for 2 plus months until collection.**
- **Yields can increase with the implementation of new technology and an increase of financial backing.**

# Images

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[www.nematodes.org/NeglectedGenomes/MOLLUSCA/](http://www.nematodes.org/NeglectedGenomes/MOLLUSCA/)

Title page

[dnr.metrokc.gov/.../marine/photos/annelidea.htm](http://dnr.metrokc.gov/.../marine/photos/annelidea.htm)

Worm

[bradleyphotographic.com/Gallery.asp?GalleryID...](http://bradleyphotographic.com/Gallery.asp?GalleryID...)

Purple urchin

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Coral cultivation

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Sponge

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Pearls

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Quahog

<http://www.klis.com/digby/scallop.gif>

Scallop

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Oysters

[www.amog.com.au/home/type1.php?id=138](http://www.amog.com.au/home/type1.php?id=138)

Submersed cage

[www.ew.govt.nz/.../Marinefarming.htm](http://www.ew.govt.nz/.../Marinefarming.htm)

Roped mussels

[www.johntickner.co.uk/pics.aspx?Id=3&SubId=8...](http://www.johntickner.co.uk/pics.aspx?Id=3&SubId=8...)

Oyster spat collector

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Abalone

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conch

[www.reef.crc.org.au/.../harvesttrochus.htm](http://www.reef.crc.org.au/.../harvesttrochus.htm)

Trochus

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Green snail

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Spotted Babylon

[www.duewestcharter.bc.ca/Helpful%20Links.htm](http://www.duewestcharter.bc.ca/Helpful%20Links.htm)

Sea anemone

[www.sciencedaily.com/.../08/050819094409.htm](http://www.sciencedaily.com/.../08/050819094409.htm)

Red sea sponge

[www.vds-afs.be/coetivy.htm](http://www.vds-afs.be/coetivy.htm)

Shrimp farm peninsula