Exploring and Identifing Invertebrates

Learning Objectives

At the end of this field activity, students will be able to:

- Identify a number of invertebrates and their associated habitats.
- Identify characteristic features of different invertebrate groups.
- Have basic understanding of the site.
- Describe the biodiversity of the reef.

Equipment

- If snorkelling - mask snorkel, fins
- If reef-walking - booties, hat and sunscreen
- Waterproof slate with pencil
- Underwater camera (if available)
- Viewing tube (if available)
- Waterproof ID guide (if available)
- ID reference books

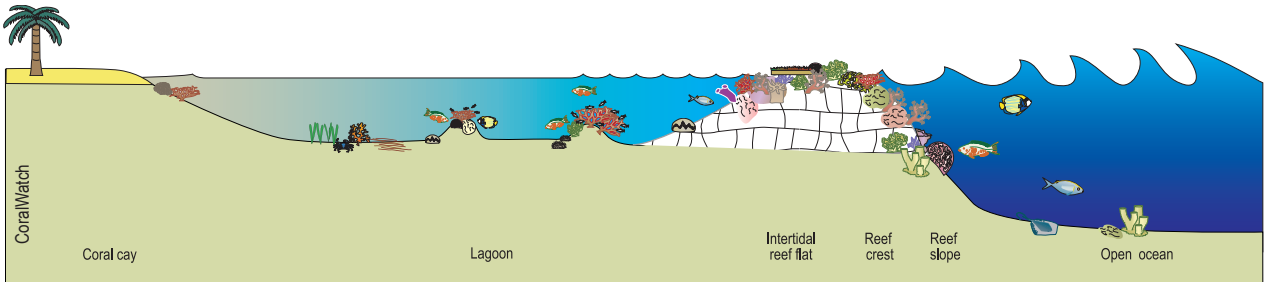
Instructions

Species ID- reefwalk or snorkel

1. Make simple drawings of the invertebrates you can find. Work as a group and choose different ones to maximise the number of species found.
2. Use the invertebrates result table to identify which area of the reef you found your creature and to make notes about colour, shape and other characteristic features.
3. Take a digital photograph for referencing the invertebrate's identification back on shore.
4. Back on shore - identify the inverts and count the number of species.
5. Compare your data results with other students.
6. Answer the following questions:
   a. What kind of animals do you find on the reef?
   b. How many species did you find? Can you give them common and scientific names?
   c. Are there certain groups of invertebrates quite common in your area?
   d. How biodiverse is your area?
   e. Does the biodiversity change between zones?
   f. List some of the different functions of reef invertebrates.

Teacher notes

- *The reefwalk activity should be conducted on the reef flat/lagoon at low tide. To increase the amount of data collection, split the group into smaller groups. Walk from shore to the reef crest and let students make notes on any changes in habitat.*
- *The invertebrates result table can be printed onto waterproof paper or copied onto a slate.*
- *It can be useful to laminate the ID-sheets with common groups of invertebrates, and take them into the field.*
- *The snorkel activity should be conducted close to the reef crest/reef slope.*
- *If possible, do both surveys (reef-walking and snorkelling) and compare the following:*
   a. *Number of different species in the lagoon found during the reef-walk versus number of species along the reef crest or reef slope during the snorkel.*
   b. *Total number of a specific species (for example sea-urchin) between close to shore versus close to reefcrest.*



INVERTEBRATES RESULTS TABLE

Observer(s):

Location: Date:

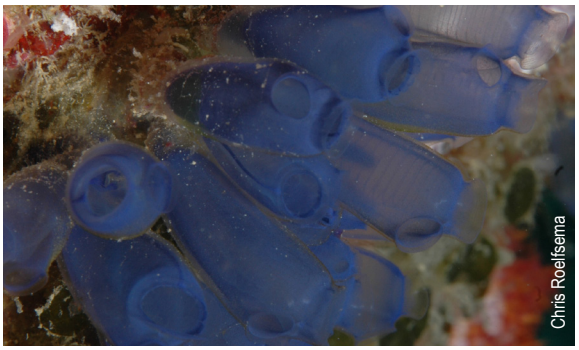
Weather conditions: windy / calm / cloudy / sunny

Substrate (tick appropriate box)					Habitat zone (tick appropriate box)			Invertebrates
Sand	Rubble	Dead coral	Live coral	Rock	Reef flat (lagoon)	Reef crest	Reef slope	List any characteristic features that assist identification

COMMON GROUPS OF INVERTEBRATES

Porifera and Ascidians: Sponges, Seasquirts, Salps

Polycarpa aurata (Sea squirt)

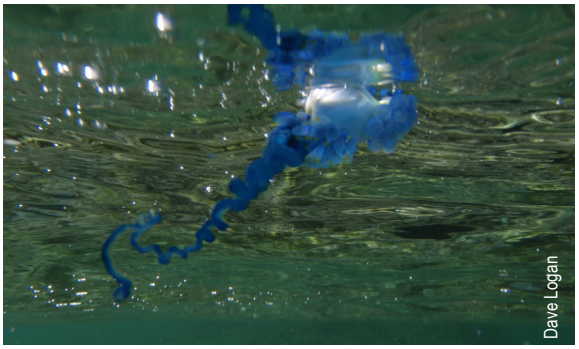


Pegea confoederata (Salp)

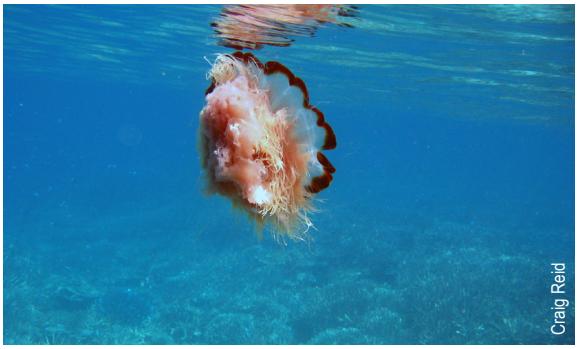
Clavelina huntsmani (Lightbulb tunicate)

Didemnum vexillum (Ascidean)

Cnidarians: Jellies, Hydroids, Corals, Anemones



Physalia utriculus (Blue bottle)



Stomolophus meleagris (Cannonball jellyfish)

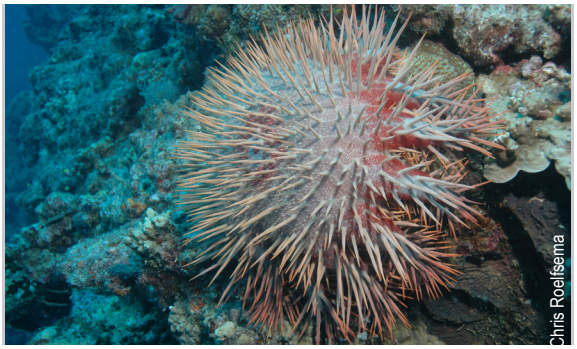
Heteractis magnifica (Magnificent anemone)

Reef-building corals

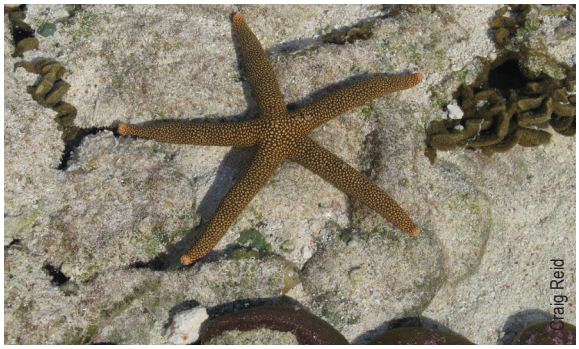
COMMON GROUPS OF INVERTEBRATES

Echinoderms: Sea stars, Cucumbers, Urchins

Holothuria leucospilota (Black sea cucumber)



Acanthaster planci (Crown-of-thorns sea star)



Archaster typicus (Common sea star)

Lamprometra palmata (Feather star)

Worms: Bristleworms, Nematodes, Flatworms, Lace animals

Spirobranchus spinosus (Christmas tree worm)

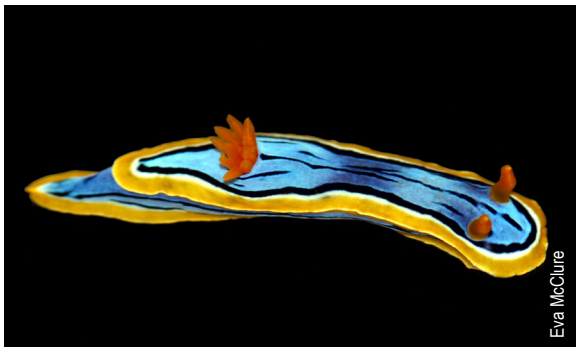
Phidolopora labiata (Lacy bryzoan)

Eupolymnia crassicornis (Spaghetti worms)

Thysanozoon nigropapillosum (Yellowspot flatworm)

COMMON GROUPS OF INVERTEBRATES

Molluscs: Chitons, Clams, Mussels, Oysters, Snails, Slugs, Nudibranch, Octopus, Squid, Cuttlefish



Chromodoris elisabethina (Nudibranch)

Tridacna gigas (Giant clam)

Acanthopleura granulata (Fuzzy chiton)

Cypraea tigris (Tiger cowrie)

Crustaceans: Copepods, Crabs, Shrimp, Lobster, Mantis shrimp, Amphpods, Isopods, Mysids, Barnacles

Odontodactylus scyllarus (Peacock mantis shrimp)

Lysmata amboinensis (Cleaner shrimp)

Panulirus interruptus (Spiny lobster)

Carcinus maenas (Green crab)