

Coral Classification

Subject matter: Classify a specific coral to genus level only, using a relevant identification key.

Recommended reading: *Coral Reefs and Climate Change - Reef building corals* (p.86-88) *Coral growth* (p.90-91)

Coral Finder, Russel Kelley (www.byoguides.com/coralfinder/) + training videos

Online resources: *Corals of the World*, Veron 2000 (www.coralsoftheworld.org/page/home/)

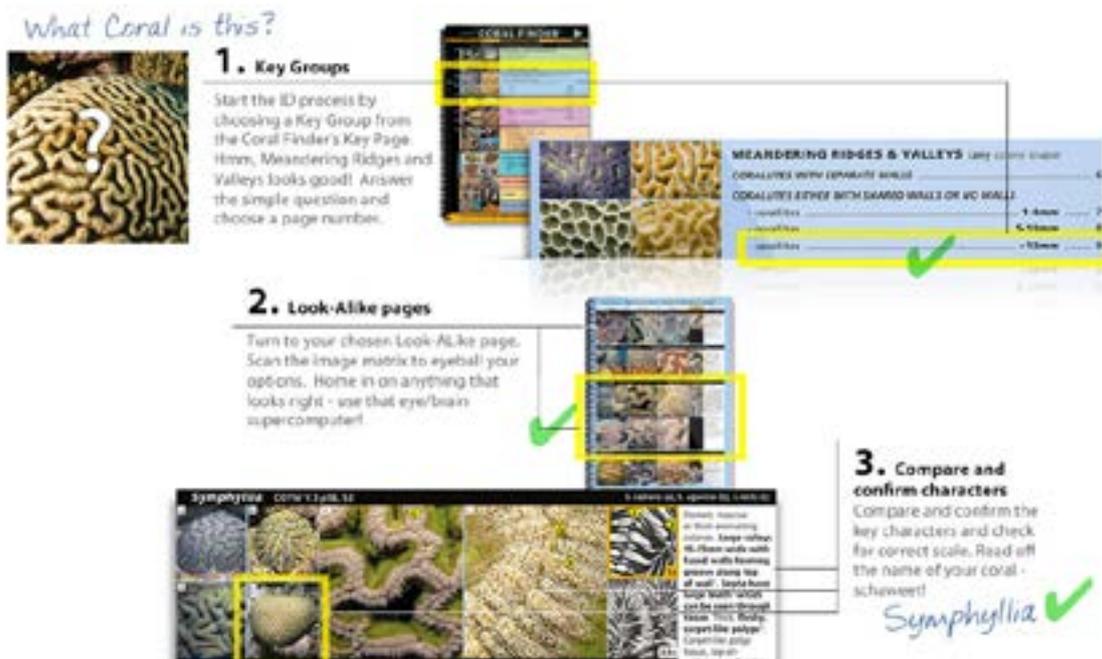
Hard Coral Genus Identification Guide, Zoe Richards (http://museum.wa.gov.au/kimberley/sites/default/files/WA%20Coral%20CompactusV2_May2018.pdf)



Identify corals - Classroom

Classifying corals can be very difficult. There are 800 species of corals worldwide, 18 different families are described in *Corals of the World* and 67 genera can be identified using the Coral Finder.

Some genera appear in many different growth forms, is often to due to environmental conditions. This variation makes it sometimes difficult to identify the genus. The Coral Finder is an easy-to-use coral ID guide, which lets any user identify corals to genus level regardless of growth form.



How to use

1. Start by studying a bit of coral lingo in the coral finder. Familiarise yourself with terms like septa, costa, septacostae, corallite, polys, walls.
2. Choose a coral you want to identify. This can be from a photo, skeleton or live coral in the field. Choose the keygroup (branching, meandering, massive, thin, solitary, large polyps, columns, lace corals) on the front page of the coral finder that best describes your call.
3. Answer the text prompts (shared/seperate walls, size of corallites e.g.) and select a look-alike page.
4. On the look-a-like page compare the different options. If you can't find your coral, try an alternative key group.
5. Find more information about your coral in *Corals of the World*, Veron 2000.

Tips

- The size of the corallite is used by the Coral Finder to compare and contrast coral genera. To measure this use the shortest distance between the inner edges of the corallite wall.
- Look for clear features, some corals are much easier to identify than others, such as the ones with large daytime extended polyps or solitary corals.
- Branching corals may have two different types of corallite - axial and radial. Axial corallites form the axis of growth at the tip of the branch. All *Acroporas* are defined by having axial corallites, an easy one!

Coral Classification

Classifying corals using photos - Classroom

Use the coral finder to identify corals to genus level.

Ask yourself the following questions:

- What is the most likely growth form?
- Are there shared walls or common walls?
- What size are the corallites?
- Are there any special features such as large daytime polyps? Paliform lobes?



*Massive or thick
Corallites with separate walls, 8 – 20mm
Polygonal corallites very distinctive*



*Massive, meandering,
shared walls,
paliform lobes*



*Branching no axial corallite
Corallite >2mm, arranged in rows
Branch tips pointed*

Classifying corals using coral skeletons - Classroom

Use the coral finder and a microscope to identify corals to genus level.

Ask yourself the following questions:

- What is the most likely growth form?
- Are there shared walls or common walls?
- What size are the corallites?
- Are there any special features such as large daytime polyps?



Use a microscope to look up close at special features



*Coral type: branching
Are there axial corallites?*



*Coral type: massive
Shared walls
Paliform lobes?*

Coral Classification

Classifying corals - Field

The Coral Finder is a water proof tool that you can take in the field and use on the spot. Make sure you don't touch the corals as they are fragile.

Another very effective way of coral identification is to take a camera in the field and take photos from different angles and ID them later. Try to take a sequence of images that includes a scale reference and location.



Wide- shot



Mid-shot



Scaled close-up



Close-up

Classifying coral types - Field

Examine coral diversity using a transect line

This exercise is an field investigation of reef communities. Corals are often identified based on morphology (e.g. boulder, plate, branching, soft) rather than species or genus.

Step to take

1. Lay out a tape measure or string with measurements marked on it.
2. Record data every 50 cm. What types of coral are found directly underneath the transect tape.
3. Swim or walk along the tape.
4. Enter your results in an excel sheet and create a piegraph.

You can repeat this exercise (or works in groups) and cover various areas of the reef. Start in the lagoon, towards the reef crest and reef slope. Compare findings.

Are there different growth forms found on the reef crest compare to the lagoon?

Tip: Create your own classroom resource by take a video along the transect line recording the different types of corals.

This can be used in class to practice reef monitoring.

Note: A transect line in the field must be attended at all times. This is a strict Marine Park regulation.



Equipment

Transect tape
 datasheet on waterproof paper or data slate
 pencil
 protective reef shoes