Shell science

For many of us a favourite past time as children was collecting shells whilst walking along the beach. There are many beautiful shells that can be both interesting to look at and intriguing to find out what kind of marine organism they came from. See some of the suggestions below to take a scientific approach to shell collecting and find out some of the things we can learn from the shells scattered on our beaches.

Shell collection

Walk along the beach making a small collection of interesting shells as you go. Try to find shells that are quite different in shape. Note some beaches may be part of sanctuary zones or marine parks where collecting of any organism (dead or alive) may be prohibited. Do not collect shells from in the water, some like cone shells are dangerous and others (even if apparently empty) may still have organisms such as hermit crabs living in them. You can take photos or draw sketches of shells instead of removing them from the beach.

Shell identification

Divide the shells into groups of similar shapes, e.g. round, flat, pointed on one or both ends, screw or spiral shaped, snail or walnut shaped. Select a shell from each group to identify. Take a photo, draw a detailed sketch or take the shells home with you for identification (you can always bring the shells back afterwards). Depending on which part of Australia you are in there will be reference books and internet sites specific to your area that will help you identify your shells. For example, in NSW a useful resource is: The Seashells of New South Wales written by Des Beechey Senior Fellow, Australian Museum. Use the following link:


His site is set out like a book with a table of contents and an index and has extensive illustrations. Here is an example of how to use this site to identify NSW shells.

1. From the opening page choose table of contents by common name. This brings up a page with illustrations of shells typical of each of the families of shells included in the collection.

2. Click on the picture or the family name beside it of the shell that you think matches the one you want to identify.

3. Look carefully at the photos in the plate shown comparing each with your shell. Do not focus on colour as many shells are highly variable in marking and colouration. Note in particular: the edges of the shell; any raised ridges or distinctive parts; the shape of the shell opening and definite lines on the shell.

4. Select the photo that most closely matches your shell either by clicking on the photo or the corresponding number and name of the right hand side of the page. Check the new photos to see if they still match your shell and read the description. There may be some unfamiliar technical terms that you can look up in the glossary if you need to. Pay particular attention to the size as this is a good indicator as to whether you have correctly identified your shell. If your shell is outside the size range you may need to return to step 3.

5. To find out about shells in this family click on ‘introduction to this family’ in the table below.

This activity not only helps you to identify shells and learn more about them, it will improve your observation skills making you look for important details of shells that you may have never noticed before.