

Land and Sea Snails: Separate Creations

Creation Research recently received these questions about snails:

Since snails live both in water and on land, when did God make snails?

As some land snails seem to go underwater, are the snails at the seaside and the snails in my garden the same sort of thing, or can all snails do that?

Our colleague Simon Terry has studied snails and slugs for many years. Here is his answer.

The short answer is no, they are not the same. Although land snails and marine snails are technically grouped together as Gastropods bearing many similarities they also carry some key differences that separate them into two distinct groups - the sea snails (technically referred to as 'Prosobranchs') and those that breathe air using a lung (referred to as the 'Pulmonates')

We will look at some of these differences and then look the Bible to find out when they were created.

Lungs and Gills

One big difference is the breathing apparatus. The word 'Prosobranch' is derived from the Greek *proso* meaning forward and *branchia* meaning gills. Sea snails therefore breathe underwater using a gill. Whelks for example use their siphon (a soft tube like structure) to draw water into the mantle cavity (a chamber where the gill is located for gas exchange).

Those snails that breathe air (the Pulmonates) include snails that live on land and in freshwater. Typically these do not possess a gill but instead use a lung. If you look carefully and patiently at a garden snail you will notice a small opening appear on the right hand side in dextral species (that is where the shell coils to the right). This is called the respiratory pore which opens and closes to allow for air to pass in and out of their lung.

Pond snails have a tube-like pore which they use like a snorkel to get fresh air while submerged. The triangular tentacles of some of these snails have blood vessels that enable them to breathe for longer underwater. Apple snails that live in freshwater utilise a lung *and* a gill. This has many advantages. When their pools get low and oxygen levels drop these snails extend their siphon and breathe using their lung. They can also leave the water for short periods to forage for food.



Land slugs, like land snails, tolerate water to a point. This Arionid slug seeks refuge from the rising waters following heavy rainfall experienced in the UK during 2012.

Land snails and slugs can partly submerge themselves in periods of drought, but prefer to escape water if they can (see above). Some may even do so to forage for food just beneath the water's surface, but must return to the land as their design and function is for terrestrial life.

Operculum

Many of the sea snails and freshwater species are known as 'operculates' - that is they have what appears to be a fixed lid attached to their tail called an operculum. When the snail withdraws into it's shell this trap door like structure seals the mouth of the shell providing extra protection from would be predators. It also protects the animal from drying out, particularly if the snail lives in rock pools.

Land snails, generally do not possess this operculum - they have other ways of avoiding desiccation. In the UK, *Acicula fusca* and *Pomatias elegans* are the only land snails that carry an operculum. *Pomatias elegans* despite being commonly called the 'Land Winkle' is not equipped for life at sea.



Both these snails are classified as 'operculates', but one is designed for life on land, the other for life at sea.

Left: *Pomatias elegans* or Land Winkle on the crawl in Surrey (UK).

Right: *Littorina littorea*, the Common Periwinkle found in Devon (UK) displaying the operculum.

Eyes

The eyes of land snails are also very different. You will notice that the garden snails have movable, retractable tentacles with eyes at the tips of the upper (posterior) pair. They are classified as the *Stylommatophora* which means 'stalk eye snails'.

Freshwater and most marine snails have fixed eyes at the base of their upper tentacles which cannot retract. Depending on the species, water pulmonates can have thread like tentacles as seen in the Apple Snails and some triangular and broad as seen in *Lymnaea stagnalis* the Great Pond Snail.

The Creation of Snails

The Genesis account tells us that God created the sea snails on Day 5:

*So God created great sea creatures and **every living thing that moves, with which the waters abounded**, according to their kind,*

Genesis 1:21 (emphasis added)

The land snails were made on Day 6:

*Then God said, "Let the earth bring forth the **living creature according to its kind: cattle and creeping thing** and beast of the earth, each according to its kind"; and it was so.*

Genesis 1:24 (emphasis added)

Despite our artificial way of classifying life, the Bible tells us that sea snails and land snails were created independently from one another.

David Attenborough, in his series *Life in Undergrowth*, said of snails:

"Many of the molluscs in the sea developed shells to protect themselves from predators. But on land those shells serve just as well to keep the occupant nice and moist. So without any major change to their anatomy molluscs were able to creep up out of the water and graze in the forests of algae and mosses that were then spreading over the land. And given the right conditions they still do."

Source: http://www.youtube.com/watch?v=hnxT0_R8xOk

As you can see, evolution postulates that snails left the ocean for life on land. Not only has this process of evolution not been observed, it requires contrary to what David has said, a major change in their anatomy. For example, a terrestrial lung is very different to a gill. The leap to a lung requires meaningful, specified, complex coded instructions. This is one giant leap for this snail kind! Only the all-wise, all powerful Creator God could engineer such genetic complexity for life on the land. Their supposed marine ancestry is something quite outside science and is pure speculation from the evolutionist who believes that these similarities infer relationship.

Malacology (the study of slugs and snails) is heavily wedded to Darwin's ideas that contradict the Bible's record of beginnings - but our observations and studies don't. The species we find and document despite their similarities are clearly designed to live and reproduce in specific habitats. Genesis chapter one shows us that God has a specific places for specific creatures - clearly defined realms. Nothing is left to chance.

We also identify great variability within family groups. The Bible says that within these groups, whether it be on the land or in the sea, creatures are only able to reproduce or bring forth *after their kind*. (Genesis 1) They can show great variation even within the species, as seen in *Cornu aspersum*, the species featured in Attenborough's documentary. (see fig.1).

The species belonging to the genus *Cepaea* (see fig.2) is currently being used by schools to present Charles Darwin's ideas, but these do not show evolution in your backyard. Instead, they show Genesis chapter one before your very eyes!



Figure 1



Figure 2

Figures.1 & 2 from: Taylor J. W. 1916-1921. *Monograph of the land and freshwater Mollusca of the British Isles*. Vol. 4. - pp. 1-160, Pl. I-XI [= 1-11]. Leeds. (Taylor).

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