Good Research Shells

A gene responsible for the beautiful green and blue colours on the inside of abalone shells has been discovered.

“This is the first gene shown to play a role in molluscan shell patterning,” said Dr Daniel Jackson of the University of Queensland’s School of Integrative Biology. “It was a chance discovery that arose from a project where genes from specific tissues are randomly sequenced, so it was quite fortuitous.”

Jackson describes mollusc shells as being “basically made of chalk with a little protein thrown in”. Their microscopic tiling makes them extraordinarily strong, far more so than any human-created material built from calcium carbonate, arousing interest from designers of everything from body armour to dental fillings.

The gene that Jackson has found causes patterning on the outside, which he suspects is used as camouflage. He doubts there is an evolutionary benefit from the beautiful mother-of-pearl patterns that many abalone have inside their shells, suspecting this is “an artefact of how the layers of calcium carbonate are built up”.

The gene in question appears to be related to genes appearing in vertebrates, including one that codes for a protein that becomes more common in the spinal fluid of fish that are in the process of learning.

Right: A gene responsible for the gorgeous colouring of abalone shells has been discovered.