Sea Urchin Surprise

Written by Administrator Tuesday, 09 July 2013 06:52 -

Sea urchin surprise reported in news@nature, biologynews.net 9 November 2006 and *Science*, vol. 314, p398, 10 Nov 2006. Scientists have decoded the genome of the California purple sea urchin and have identified 23,300 genes made from 814 million DNA code letters. The scientists were surprised to find 7,077 of the sea urchin genes are also found in humans. Most surprising was that some of the "in common genes" are associated with hearing, balance, and sight in humans, but the sea urchin does not have eyes and ears. The vision genes were found to be activated in the animal's tube feet. Gary Wessel of Brown University, who participated in the project, commented: "Nobody would've predicted that sea urchins have such a robust gene set for visual perception. I've been looking at these organisms for 31 years - and now I know they were looking back at me." Some of the eye and ear genes were thought to be unique to vertebrates. The gene study also showed that sea urchins have a complex immune system.

Editorial Comment: Seven thousand out of 23,300 genes is approximately 30%, but no-one has yet claimed sea urchins are thirty percent human. Next time someone claims that humans are 98% chimpanzee remember this! Finding genetic information that is used in eyes of vertebrates but in tube feet in sea urchins simply shows that the information carried on genes can be used in different ways. It is not evidence that one kind of creature changed into another. Neither is this type of phenomenon a new discovery, but rather an ignored old one because it doesn't fit evolutionary theory. In the 1970's, prominent embryologist Gavin de Beer wrote a book entitled Homology: an Unsolved problem (1971 Oxford University Press). He pointed out that "homologous" structures are not always controlled by the same genes, and the same genes in different organisms can control different structures.

The following two quotes from de Beer's book are from an article entitled Homology and Heterochrony: The Evolutionary Embryologist Gavin Rylands de Beer (1899-1972) by Ingo Brigandt, Department of History and Philosophy of Science, University of Pittsburgh: "It is now clear that the pride with which it was assumed that the inheritance of homologous structures from a common ancestor explained homology was misplaced; for such inheritance cannot be ascribed to identity of genes." (de Beer, '71, p 16)

"But if it is true that through the genetic code, genes code for enzymes that synthesize proteins which are responsible for the differentiation of the various parts in their normal manner, what mechanism can it be that results in the production of homologous organs, the same 'patterns', in spite of their not being controlled by the same genes? I asked this question in 1938, and it has not been answered." ('71, p 16) (Ref. echinoderms, genetics, invertebrates)

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