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## Spiny worm shines light on fibre optics

By Roger Highfield, Science Editor

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THE spines of the sea mouse, an iridescent marine worm, could help to create a new generation of optical fibre communications.



An analysis of the felt-like threads that enable the creature to put on a brilliant light show reveals that they are a "remarkable" example of optical engineering, says Prof Ross McPhedran of the University of Sydney, New South Wales.

With colleagues, he explains today in the journal Nature how studying the spines of the Aphrodita could help increase the information squeezed into optical fibre cables. Prof McPhedran, who is currently at the University of Liverpool, said the spine appeared red, but when light shone on it at right angles, colours such as blues and greens appeared as stripes along the spine. At other angles all colours were reflected.

His team had discovered why the spines acted this way. They had the same microscopic structure - a series of hexagonal tubes - as a new type of optical fibre pioneered at the University of Bath.

Understanding the structure of the creature's spines would help "ground breaking research opening up new possibilities for optical fibre communication. It's a case of mankind's inspirations being predated by Mother Nature".

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Glow worm: the spines of the Aphrodita are a 'remarkable' example of optical engineering

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