Mechanical Properties of Crayfish Claws: Getting Inspiration from Nature

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We can analyze natural materials and the properties of these materials to make a man-made material that has outstanding properties. I chose to study the claws of crayfish. The flat part of the crayfish's claw, the Manus, was tested for hardness and Young's modulus. The Manus is the joint that connects the claw from the body. Hardness is the measure of how well a material can resist deformation, and Young's modulus is the measure of a material's stiffness. The experiment provides more understanding of how we can learn from the crayfish to make man-made materials. It can also help us understand how crayfish fight in the wild and where the most damage is done from their fights. The data was compared to Black Scorpion data I collected last year through the same process of nanoindentation.

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