

How Does A Creature Reproduce When It's Four Separate Creatures?



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6/19/15 2:19PM • Filed to: DAILY EXPLAINER 

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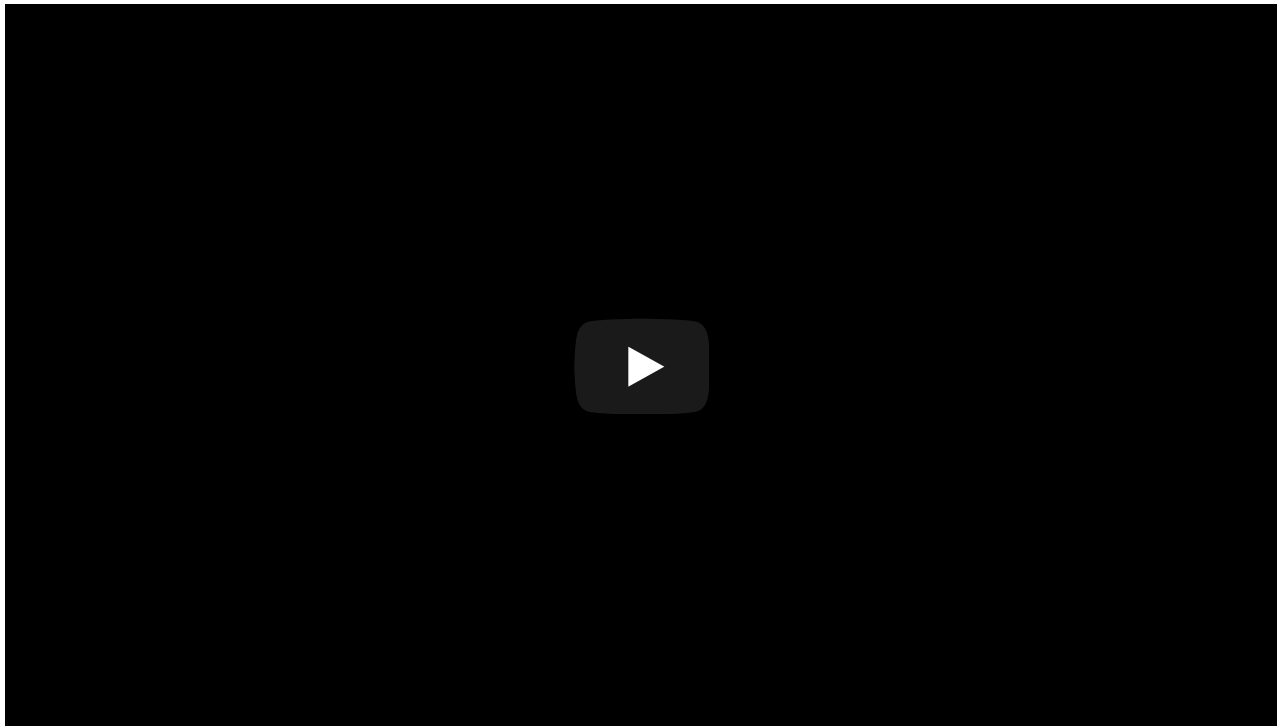


Siphonophores are groups of creatures that live, connected, as one animal. And they're incredibly confusing — they all have the same DNA. They can't separate. They work together to achieve one goal. So why are we supposed to think of them as “colonies,” rather than a single entity?

Siphonophores Roaming The Oceans

The most famous siphonophore is the Portuguese man-o-war, which has ruined many innocent dips in the ocean. The balloon-like sail and the tentacles are familiar to us, and makes the man-o-war look familiar, like a jellyfish. That's not the form all siphonophores take. *Marrus orthocanna* swims too deep to get a common name and looks, with its string of blossom-like bells on a single stem, like a piece of seaweed. *Apolemia uvaria* looks like someone dropped a feather boa in the ocean. And then there's this:





What is that? Even the people looking at it can't figure it out. All they're willing to say is it's the size of "twenty wiffle balls," and it's probably a siphonophore. Which means it isn't an "it," it's a "them."



To go back to the familiar man-o-war, the sail is a creature called the pneumatophore. The stinging tentacles are made up of dactylozooids. The gastrozooid is in charge of breaking down the food that the dactylozooids catch. And the gonozooid is the part that reproduces.

Siphonophore Mating And Non-Mating



So how do these separate creatures yoked together in one body actually reproduce? Man-o-war reproductive sections (gonozooids) have two sexes, male and female. When the man-o-war gather in large groups, they release their genetic hopefuls, eggs and sperm, into the ocean. The eggs and sperm meet and form their own little gonozooid.

Where do the pneumatophores, the dactylozooids, and the gastrozooids come from? They slowly bud off from the fertilized organism. Each one shares the genetic information of the original fertilized egg, but they form their own creatures through this asexual budding. Throughout the life of the siphonophore, these creatures will stick together, feeding each other, protecting each other, and navigating for each other, until it comes time for the gonozooids to breed again.

Bullshit?

If that sounds dubious to you, you're not alone. Many people wonder what differentiates a siphonophore from any other creature. [Descriptions of siphonophores](#)

do sound like they could be applied to any single animal, including humans. Your brain navigates, your arms and legs protect and hunt, your stomach digests food, and your sexual parts reproduce — but that doesn't mean those parts are colonies.



And yet, biologists all agree that siphonophores are colonies, and not single animals. So what's the difference?

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Many people compare siphonophores to [ant or bee colonies](#). Bees perform rigidly separate functions. A worker cannot perform the functions of a queen. Separate an ant or a bee from its colony and it will almost certainly die soon. Divide the colony itself and the entire thing collapses. But that doesn't mean that each insect is not a separate animal from every other member of its colony. Then again, an ant isn't joined to the rest of its colony by tissue, and it doesn't bud from its queen's abdomen.

The best way to understand siphonophores is thinking about [conjoined twins](#). They carry the same DNA, and they move as one body. Only one twin was created by the original fusion of sperm and egg. And sometimes they are unable to survive if separated. But they do live separate existences. Siphonophores can make independent motions. They grow and repair themselves independently. They are multiple organisms joined as one. The difference is, they have made the conjunction a necessary part of their regular life-cycle.

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For the description of their "budding," it sounds like each part of the siphonophores is an organ, but each organ is doing its own thing apart from each other organ, without necessarily being aware of the others. They are beneficial to each other by happenstance. One does wonder how such an arrangement would evolve, though. In fact, I'm inspired to go do some light research on siphonophores...what are they related to, for starters?

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It's probably how all early life forms that came to have organs evolved. What once was a bunch of separate creatures joined forces and lived together. Afterwards their DNA melded and matched together though they operated independently. Then, somewhere along the line, one 'creature' commandeered control and issuing of commands to the others, and all the rest became intertwined to share and trade resources for absorption, refining, utilizing, etc.

Then over time, all the organs lost their autonomy and became one single



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