## **CUTTLEFISH**

## by Josh Anthony

While perhaps not the most pulchritudinous creature, the cuttlefish is nevertheless one of the most amazing.

Cuttlefish are not actual fish, as their name suggests, in fact they are part of the Mollusk family (phylum Molluska, one of the most intelligent types of creatures). As with all other mollusks, the cuttlefish has a calcium-based mantle which shapes the body, which is not unlike that of a jellyfish in ways other than appearance. The cuttlefish have eight arms, not unlike octopus, and two tentacles. Between these two tentacles is the mouth. The eyes of the cuttlefish, which vaguely resemble human eyes, extend from the front of the face. Although the cuttlefish's eyes are unable to detect color, they can see different degrees of the polarization of light.

Due to a type of cell called chromatophore, the cuttlefish can change colors when the cell expands or contracts. This ability earns it the nickname "chameleon of the sea." Besides basic variation of color, the intelligent cuttlefish can also change different parts of its body to different colors at different times. This capability can, for example, make moving dots or stripes appear on the skin. The simulated color motion is used to stun the cuttlefish's prey (a similar effect causes seizures in humans) and then the cuttlefish kills. The cuttlefish moves through the water using a method not unlike the squid: pushing water out from the mantle through a siphon.

Another odd capability of the cuttlefish is that it can split its body coloration so one half bears the female pigment, while the other half bears the male version. After mating, the male cuttlefish are extremely protective of the females, especially when she is laying the eggs. However, another approaching male may use the "half-and-half" ability to confuse the guarding male.

Not surprisingly, the cuttlefish learns quickly. For example, a certain cuttlefish in captivity quickly realized that pressing a button inside its tank released a live fish snack. Although we cannot fully understand the mind of a cuttlefish, in is possible that the creature also understands how the release contraption operates.

In a later experiment, an artificial fish was released to the same cuttlefish as it pressed the button. The cuttlefish tried to eat the realistic-looking fish once, then ignored it. But when another live fish was released to it, the cuttlefish once again indulged in a snack. When the cuttlefish feels threatened, it ejects an ink based on protein (not unlike the octopus) to confuse enemies and help it escape.

Cuttlefish eat mostly fish, crabs, shrimp, smaller members of the mollusk family, and occasionally even other cuttlefish. Unfortunately, this amazing creature is used for food in East Asia, where dried shredded cuttlefish is a very popular snack.

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