



September-October 2011

### Mutualism – Helping One Another

by Lanny and Marilyn Johnson

“You scratch my back and I’ll scratch yours.” Have you ever heard that saying? It means that if you do something for someone and they do something for you, both of you will benefit and be helped in some way. Sometimes plants or animals help each other, and when both get something good from the help it is called *mutualism* (myoo-choo-uh-liz-uhm). Here are just a few examples of mutualism in God’s Creation:

**The Snapping Shrimp and the Goby** – The snapping shrimp is designed to be a digging machine. Each of its five pairs of legs are designed for different jobs - some feel, some dig, some scratch, some carry sand and trash, and some are walking legs. All the legs are used to dig a system of tunnels in the sand. The 1-2 inch (3-5 cm) long snapping shrimp can dig a burrow several feet across with several entrances in only a few days.

Some snapping shrimp share their burrows with goby fishes. Because of its very poor eyesight,



Image via [http://commons.wikimedia.org/wiki/File:Gobie\\_and\\_Shrimp.JPG](http://commons.wikimedia.org/wiki/File:Gobie_and_Shrimp.JPG)

the almost blind shrimp is in danger of being hunted when out of its burrow. The goby, having better eyesight, gives the shrimp protection by watching out for danger. If the goby sees danger, it moves its tail in a certain way. The shrimp feels the movement with its antenna, and both quickly retreat into the safety of the shared tunnels. Amazingly, the snapping shrimp eats other fish, yet it lets the goby be its “eyes” without eating it!

### The Yellow Tailed Goat Fish and the Yellow French Angel Fish

The yellow French angel fish live in reefs where they can hide from fish that might eat them. One type of fish that sometimes eats them is the yellow tailed goat fish, which are mostly white in color. Traveling in small schools, the goat fish swim around reefs looking for fish to eat. However, the goat fish are sometimes bothered by uncomfortable and unhealthy critters (parasites) that cling to their scales and gills. To get rid of these pesky parasites, the goat fish swim to the reef in which the angel fish live and blush a bright rust red color. Seeing the blushing color, the angel fish knows that the goat fish is there for a cleaning and not for lunch. The angel fish then swims out and eats the parasites living on the scales and gills of the goat fish. The angel fish gets a meal and the goat fish gets cleaned. When the angel fish is finished cleaning, the goat fish stops blushing and swims off, leaving the angel fish unharmed.



**The Bluestreak Cleaner Wrasse** - The Bluestreak Cleaner Wrasse are small friendly fish with a very interesting “dance” that they do to attract and calm other fish ... fish that might eat them. Yet, these other fish allow the wrasses to clean parasites, dead tissue, mucus and other debris from their bodies, fins, eyes, and mouths. Sometimes the cleaner wrasse will go completely inside the open gaping, teeth-filled mouths of a much larger fish! They often set up a “cleaning station,” an area where the other fish will visit just to be cleaned. The big fish get their teeth and gills cleaned, and the cleaner wrasse gets a meal.

Can this mutualism just have happened by the chance and accident of evolution? How did the snapping shrimp know not to eat the goby because it could warn of danger – how did the goby know it wouldn’t get eaten and it could use the shrimp’s tunnel for protection if it would act as the shrimp’s lookout ... by accident? How did the goat fish know not to eat the angel fish because it could clean it of irritating things holding on to its body – how did the angel fish know that when the goat fish blushed it would



not get eaten and would get a free meal ... by chance? How did the cleaner wrasse know it could get a meal from a fish that would normally eat him – how did hungry fish learn not to eat the wrasse, and let them clean them instead ... by mistake?

No, evolution can never explain this “know-how.” A better explanation is a wonderful, intelligent Creator that planned it that way for the provision of His creatures.



LOOK A LITTLE  
HARDER FOR  
THE OBJECTS  
BELOW

- 5 Nuts and Bolts
- 5 Light Bulbs
- 5 Bees
- 5 Cherries
- 2 Bow Ties
- 3 Neckties
- 2 Bats
- Screw
- Gloves
- Dime
- Wrench
- Carrot
- Red Heart
- Letter D
- Straw Heart
- Baseball
- Pair of Socks
- Eight Ball
- Penny
- Number 7
- Spiders
- Belt
- Tennis Ball
- Bowling Ball
- Pear
- Basketball
- Chain

**SEEK AND FIND**  
Find these things hidden in the picture above

