

## Kwajalein Scuba Club, June 2011

### --The First Stage--

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The annual safety meetings have been completed, memberships have been renewed and officers have been elected for the coming year...so, let's get started!

#### *Equipment Alert!!*

Myflex HP hoses: there have been reports on the internet of several of these hoses blowing out. So far, there are no report of injuries. If you have Myflex hoses on your gear, please check with the manufacturer to see if you need to replace them.



*Christmas Tree Worm*

#### *June monthly meeting-*

We're going back to the Pacific Club for the next few meetings. The next meeting will be Wednesday, June 8<sup>th</sup>, at 7pm.

We really need a new name for the Pacific Club, so if you have any suggestions, please bring them to the meeting.

#### *The Point System-*

The Point System is alive and well! Points start counting at the June 8th meeting. Congratulations to Kinley Goodman for winning last year's point contest! He won the free trip to Kosrae. **YOU** could be the next winner!

Points are easy- attend meetings and help out at events. Officers are not eligible for points, however KSC Divemasters are (unless they are being paid to DM an event). Wear a KSC shirt to a meeting and receive an extra point. The rules are subject to change.



Bring your fins to the June meeting for two extra points.

Vendors will be displaying what new and hot on the fin market.



~~~ Ascend slowly from every dive! ~~~

The Facebook logo, consisting of the word "facebook" in white lowercase letters on a blue rectangular background.

Are you on Facebook? If so, so is KSC! We use it to post meeting and event announcements. By using Facebook, you can help us judge how many are attending events. Do a search for Kwajalein Scuba Club.

*Coral Spawning-* by Carly Kenkel of the University of Texas

Turn up the Marvin Gaye and replace the batteries in your dive light because it's spawning time baby! The mass spawn of reef-building corals is truly one of the most awe-inspiring events you could ever witness on a reef. An annual event, corals spawn with the lunar cycle and world-wide spawning typically occurs during the warmest months on or around the full moon. In the Caribbean spawning occurs in the late summer months; in Australia its November or December and around the Pacific, March or April is the month for love.

Most reef-building corals are hermaphrodites and release egg and sperm bundles from each of the polyps within a colony. The exact month for spawning can be determined by looking for these gamete bundles. In the Pacific, researchers typically break a small branch off an Acroporid in the week preceding the full moon to check – if the bundles are a deep pink, spawning will be that month; if they are white, there's still some development to go, and spawning will be the following month.

While most researchers then proceed to collect individual colonies for a "test-tube" type spawn, the natural event is the way to go. This requires some serious night diving though, as most corals spawn between 1900 and 2300; and while the month and lunar cycle allow honing in on the date, the exact night of the spawn can vary. When a coral is ready to spawn it will "set", meaning that the gamete bundles will rise to the mouth of the polyp. When this is observed, it is only a short time before the colony - and many others like it - literally explode. The bundles are positively buoyant and begin to float up to the surface, where fertilization occurs. Of course, this large volume of food results in an electric reef environment as all sorts of fish and invertebrates are racing around stuffing themselves with the fatty egg-bundles.

For those eggs and sperm that do make it to the surface, they combine to produce the coral larvae that float off to re-seed or create new reefs, depending on where the ocean currents take them. Once there, they settle and metamorphose to become tiny versions of the adult colonies that make up the reef. So if you can, get out and feel the love! But don't worry if you've missed it – there's always next year.

~~~ Safe diving is no accident! [www.diversalertnetwork.org](http://www.diversalertnetwork.org) ~~~

*Fish of the Month* by Scott Johnson

### **3-stripe clownfish- *Amphiprion tricinctus***

Of the four kinds of clownfish that reside on the reefs of Kwaj, probably the most interesting is the so-called 3-stripe clown, *Amphiprion tricinctus* (often just called "tricinctus."). It is interesting because it appears to occupy more different kinds of sea anemones than any of the others here, and because it is endemic to the Marshalls; that is, it is found nowhere else in the world.

Clownfish are members of the damselfish family that have colonized a unique habitat. All clowns (all but one members of the scientific genus *Amphiprion*) exclusively live in association with one or more kinds of sea anemones. Sea anemones possess minute venomous stingers called nematocysts capable of stunning or killing most small fish, yet the clowns are able to nestle down among the stinger-bearing tentacles with impunity. Studies have indicated that clowns are covered with a protective mucus, derived from either the fish or anemone or possibly both, that inhibits the firing of these stinging cells.

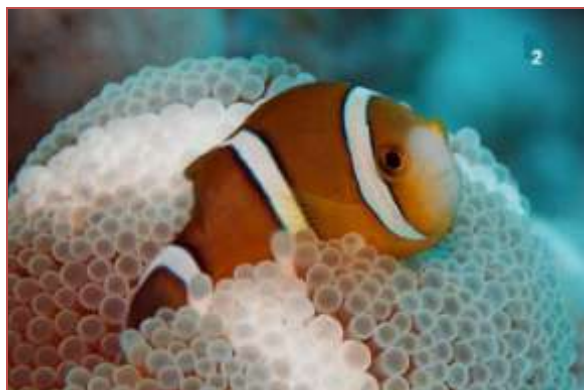
Since clowns in nature are always found in association with sea anemones, it is obvious that the relationship is something they require. Hiding among the stinging cells of the anemone probably protects the relatively slow clownfish from some predators. But what about the anemone? Studies have shown that anemones from which the clowns have been removed often disappear, possibly quickly consumed by coral-eating butterflyfish, which are normally kept at bay by the relatively aggressive clowns.

Although there are many species of anemones found in all the oceans, clownfish live in only about 10 different kinds, and occur only in the Pacific and Indian Oceans. Of those 10 clown-bearing anemones, we have nine of them here at Kwaj. However, there are some 28 species of clowns scattered across the Indo-Pacific, but only four of those live are found in the Marshalls.

The tricinctus clown is found at Kwaj on both lagoon and oceanside reefs, on lagoon pinnacle reefs, and even on shipwrecks. We have seen it living in seven of the nine species of potentially clown-associated anemones here, although adults are most often found living in pairs in the anemone *Entacmaea quadricolor* (photo 1). In this anemone, adults are usually more orange anteriorly, becoming black towards the all-black tail. Younger ones might be even more orange, all the way to the tail (photo 2). Often,



however, the tricolor might be found in the carpet anemone, *Stichodactyla mertensii* (photo 3). In these, the adults lose nearly all their orange color, becoming mostly black with 2 or 3 white bands.



Some kinds of anemones, such as the Haddon's (*Stichodactyla haddoni*), corkscrew (*Macroactyla doreensis*) and sand (*Heteractis aurora*) (photo 4), are usually occupied by a number of juvenile tricolor, often with no adults. However, it is sometimes tough to be absolutely certain the juveniles are indeed tricolor; juveniles of the 2-stripe clown (*Amphiprion chrysopterus*) look very similar and are difficult to visually

distinguish from young tricolor. However, since the adults we always see in those three anemones are unquestionably tricolor, we assume the juveniles are as well.

For more on all the clownfish of Kwaj and their host anemones, as well as information on other critters associated with those anemones, see our web site at <http://www.underwaterkwaj.com/uw-misc/Reefpage.htm> and select the clownfish thumbnail.

Text by Scott Johnson

Photos by Jeanette & Scott Johnson.

<http://www.underwaterkwaj.com>

**Don't forget- Wednesday, June 8<sup>th</sup>, 7pm at the Pacific Club for the monthly meeting. Remember to bring your fins, and we will see you there!**

~~~ Ascend slowly from every dive! ~~~





Dan Orr, President of Divers Alert Network (DAN) visited Kwajalein last month. At the May membership meeting, Dan presented the Kwajalein Scuba Club with an award for being the first-ever DAN Diamond Club Sponsor. Bill Williamson accepted the award on behalf of the Kwajalein Scuba Club.

KSC's "Tribute to the Troops" is on the way to US Scuba Club Germany.

Go to <http://usmilitarydiverseurope.club.officelive.com/default.aspx>

and read what they say about KSC.

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