

## Chapter 1 Morro Bay, California

In the late 1980s a new term crept into the vocabulary of experienced, world-traveling divers. That term was **“muck diving.”** I am not sure, but I think it originated with Bob Halstead, the pioneer of Papua New Guinea diving and the owner of the ***Telita***, one of the world’s first great “liveaboard” dive boats. Occasionally, due to weather or some other unusual situation, Bob would find himself anchored far from the magnificent PNG coral reefs the Indo-Pacific is famous for, but instead on a featureless, often silty shallow area close to shore, sometimes in the vicinity of a pier or other site strewn with man-made junk.

Looking around underwater in such an unlikely area Bob, to his surprise, started finding amazing creatures, animals not found anywhere else. These included all types of pipefish, seahorses (including the amazing little pygmies), flamboyant cuttlefish, astoundingly beautiful shrimps, frogfish, octopus, and a dazzling array of nudibranchs. He started showing these places to guests, they liked them, and the term “muck dive” was born to describe them. The term spread literally around the diving world, and today everybody seems to know what a muck dive is. There are magnificent resorts dedicated to muck diving; perhaps the best of these is Kungkungan Bay Resort in Indonesia.

I love muck dives, and have done some of the best in the world in Papua New Guinea, Indonesia, the Solomon Islands, and a few other exotic places. But my favorite is right here in my home state of California, under an old wooden pier in Morro Bay called the “Coast Guard Pier.” Its official name is the “North T-Pier,” but because of the Coast Guard facility there it is commonly called the “Coast Guard Pier.”



*Coast Guard Pier, Morro Rock in background partially obscured with fog.*

Morro Bay is an idyllic little resort town located just north of San Luis Obispo on California’s Central Coast. It is the northbound jumping-off point for what may be the most beautiful

drive in the world, California Highway 1 from here up to Monterey. Many tourists use it as a base for visiting Hearst Castle in San Simeon, only about 30 miles to the north. The bay is a place of great natural beauty. It is also a very special place ecologically, with dunes, wetlands, forest. Great blue herons nest here, and it is home to many other bird species. It is a photographic paradise:



*Morro Rock viewed from just south of Fairbanks Point*

While the Coast Guard Pier is a truly magnificent dive, I can't really say that it is **better** than the great warmwater muck dives of the Indo-Pacific. I think I just like it better because I can do it virtually any time I want (with a 3-hour drive each way and cooperating tides, of course). Perhaps I like it so much because of the memories that the Central Coast holds for me, or the fact that I associate it so strongly with my daughter Coleen, with whom I have dived it so many times. Maybe I like it so much because almost nobody else pays any attention to it. It has become "my" dive.



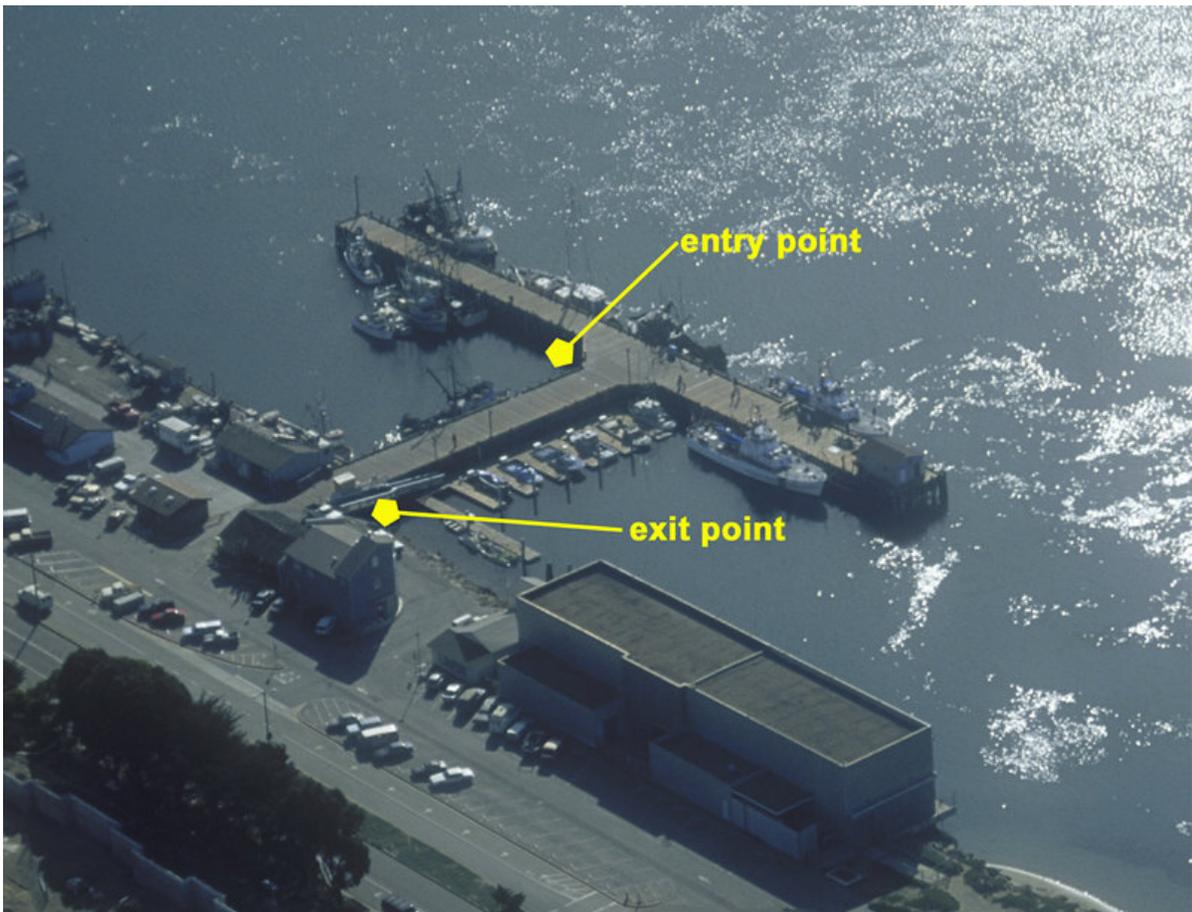
*Coast Guard Pier looking north toward stacks, entry point at extreme left where pier bends*

It's a fairly easy dive as pier dives go, but it's certainly not as easy as warmwater muck dives. The water is cold—normally 50-55°F. I don't think I have ever seen it above 55. So that means a lot of equipment, including (for me) a dry suit (DUI TLS350), heavy weights, gloves, hood, etc. Although it can be dived in almost any weather, it is very tide-related. Morro Bay gets flushed by the tides twice a day, and the currents are raging during the 6 hours or so between the two high and low tides. Four- to five-foot tidal changes are common. It's fun to watch the boats anchored out in the bay turn around with each tide, pointing north toward the mouth of the bay on the incoming tide, south toward Los Osos when the tide is going out.

The dive can only be safely made straddling the high or low tide, about a half hour on either side of slack, the point where the current reverses. The best time to dive the pier, I have found, is on the higher of the two daylight tides. The incoming water from the sea seems to be the cleanest at that time. Visibility at the pier is affected by conditions outside the bay. If the surf is pounding the breakwater, the tides bring in dirty water and visibility is limited, even at the highest tide. On the other hand, if ocean conditions are calm outside the bay, sometimes you can see the bottom standing on the pier.



*North T-Pier (Coast Guard Pier), Morro Bay, looking northeast*



*Entry and exit points*

I have probably done more than 100 dives here. In the early years, when Coleen lived in Morro Bay, I almost always dived it with her; however in subsequent years I have mostly made the dive solo. Sometimes when I need a pier dive fix and there is a high tide around noon, I will drive up alone, do the dive, and return home on the same day. Other times my wife Pam and our beautiful little red English bulldog Sarah will accompany me. While I am underwater Pam and Sarah walk around the pier area and make friends. When we have time we will stay overnight at a doggie-friendly hotel in Morro Bay and do the dive on two consecutive days. I also make the dive with my brother-in-law and good friend Gary Powell, who lives in Modesto. It takes Gary about the same time to drive to Morro Bay from his home in Modesto to the north as it takes me from mine in the Los Angeles area to the south. Gary is a very experienced diver and a superb underwater (and topside) photographer. Like me, he has some sort of genetic flaw that causes him to enjoy a dive like this. Coleen, of course, actually *having* my genes, was predestined to like the dive. She had no choice.

My dive routine has gotten pretty well established. First I check in with the Coast Guard and the Harbormaster, whose offices are right at the foot of the pier. Everybody is friendly. I usually spend some time talking to the Coast Guard men and women. They are so young, so fit, so beautiful, so “American” in the absolute best sense of what that term means. They are always interested in “what I see under there.” I occasionally bring them some prints of the animals I photograph under the pier, and they always seem to appreciate them. A framed 13”x19” print of one of my photos (a nudibranch) hangs in the commander’s office. I am very proud of that.

I usually drive my car out onto the pier and unload equipment at my entry point, which is at the interior corner of the intersection of the two arms of the pier (see the previous photo). After unloading I move the car to a public parking lot behind the Harbormaster’s office. At the right time (about forty minutes before the slack tide) I hang my camera in the water on a drop line from a cleat on the pier deck, suit up, and do a giant stride entry off the pier. At high tide, the difference in elevation between the top of the pier and the water surface is 8-10 feet. That is a serious “giant stride.” But it puts me right about where I want to be at the start of the dive, it is safe, and it minimizes any surface swim and the dangers from boat traffic.



*Entry point*

Because the maximum water depth under and around the pier, even at high tide, is only about 30 feet, the dive times tend to be long; for me, often over an hour. Most of my dives used to end when I ran out of film; now with digital equipment I can shoot several hundred high-resolution images on a single dive and it is almost always remaining air (or bladder condition—you don't pee in a dry suit) that ends my dives. When I see about 700 psi on the gauge I make my way over to the rocky slope at the foot of the pier on the northwest side, and exit there with a strenuous climb up the rocks to the street. Boat traffic is a constant danger in this environment, so the return swim must be made either directly under the pier or, if that is not possible, right on the bottom. Coleen and I wrote an article<sup>1</sup> a few years ago on techniques for diving piers that we think contains lots of valuable information for divers who want to do this sort of dive.



*Exit point at foot of pier on northwest side*

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<sup>1</sup> Bondy, C. and Bondy, K., "Pier Diving – the Rewards are Peerless," Dive Training Magazine, May 2000, pp. 102-105

Nudibranchs are the big underwater photographic attraction here. They are that bizarre family of marine snails without shells that may be, as a group, the most beautiful animals in the world. Sacramento is the geopolitical capital of California, but Morro Bay is the nudibranch capital. I don't know what draws them to this spot and sustains them here (marine biologists probably do), but they come and they thrive. There are so many nudibranchs under and around the pier that you often see two different species very close to each other. I have never seen that anywhere else. Sometimes I see the two different nudibranchs approaching each other and can set up the shot to get them both in the frame. Other times I don't see them both, particularly when one of them is very small, and I only realize that I got two in the same frame when I see the image later. In the following photo I clearly saw the two individuals and was able to capture them next to each other:



*Hermisenda crassicornis* (below), *Triopha maculata* (above)

In the photo below I didn't see the little *Hermisenda* in the lower left until I looked at the image on the computer:



*Triopha maculata* (center), *Hermisenda crassicornis* (lower left)

In the next photo, it took me several months and many viewings on the computer before I saw, with considerable shock, the little *Acanthodoris rhodoceras* nudibranch in the lower left corner of the frame. I wish I had seen the *Acanthodoris* at the time I made the image, because he would have made a great subject, and he is the only one of his species I have ever seen:



*Triopha maculata* about to crush a little *Acanthodoris rhodoceras* in the lower left

Here's another amazing encounter (I did see this one coming) between two different nudibranch species, one very common (the *Hermisenda*), the other very unusual (the *Flabellina*):



*Hermisenda crassicornis* and *Flabellina trilineata* squaring off

In the past few years there has been an explosion in the number of *Hermisenda crassicornis* nudibranchs in the bay. In the past you always stood a good chance of seeing a *Hermisenda*—now you can't miss. There are literally thousands of them under and around the pier. In some areas there is one every few inches. Perhaps a marine biologist can explain that to me. Here a nice family of them lines up for me in order of size:



Three *Hermisenda crassicornis*



*Hermissenda crassicornis* on red bryozoan



*Hermissenda crassicornis* with giant starfish in background



*Hermissenda crassicornis*

*Hermissendas* are one of the most beautiful nudibranchs in the world, but somehow because they are so common in California their beauty seems diminished, taken for granted. Why is that, I wonder?

The other nudibranch species that has greatly increased in numbers under the pier is the beautiful *Triopha maculata*. I used to see one every few years; now it is not unusual to see several individuals on every dive. The increase in *Triopha* numbers is not as spectacular as with *Hermissenda* but still very noticeable. *Triophas* are fascinating animals. They can get very large (3-4 inches), they move rapidly (for a snail), and they come in a wide variety of color variations, from deep chocolate brown to pale orange. Their spots are raised above the skin and brilliant white in the larger individuals. Here are a few *Triophas* with different color variations:



*Triopha maculata*, common in Morro Bay, unusual elsewhere. Light orange base color.



*Triopha maculata* head with dark chocolate-brown base color



*Triopha maculata*, light orange base color, doing a U-turn



*Triopha maculata*, small individual with pale orange base color and less distinct spots

I have seen many other species of nudibranchs under the pier. Here are a few of them:



*Flabellina trilineata*, unusual in the Bay



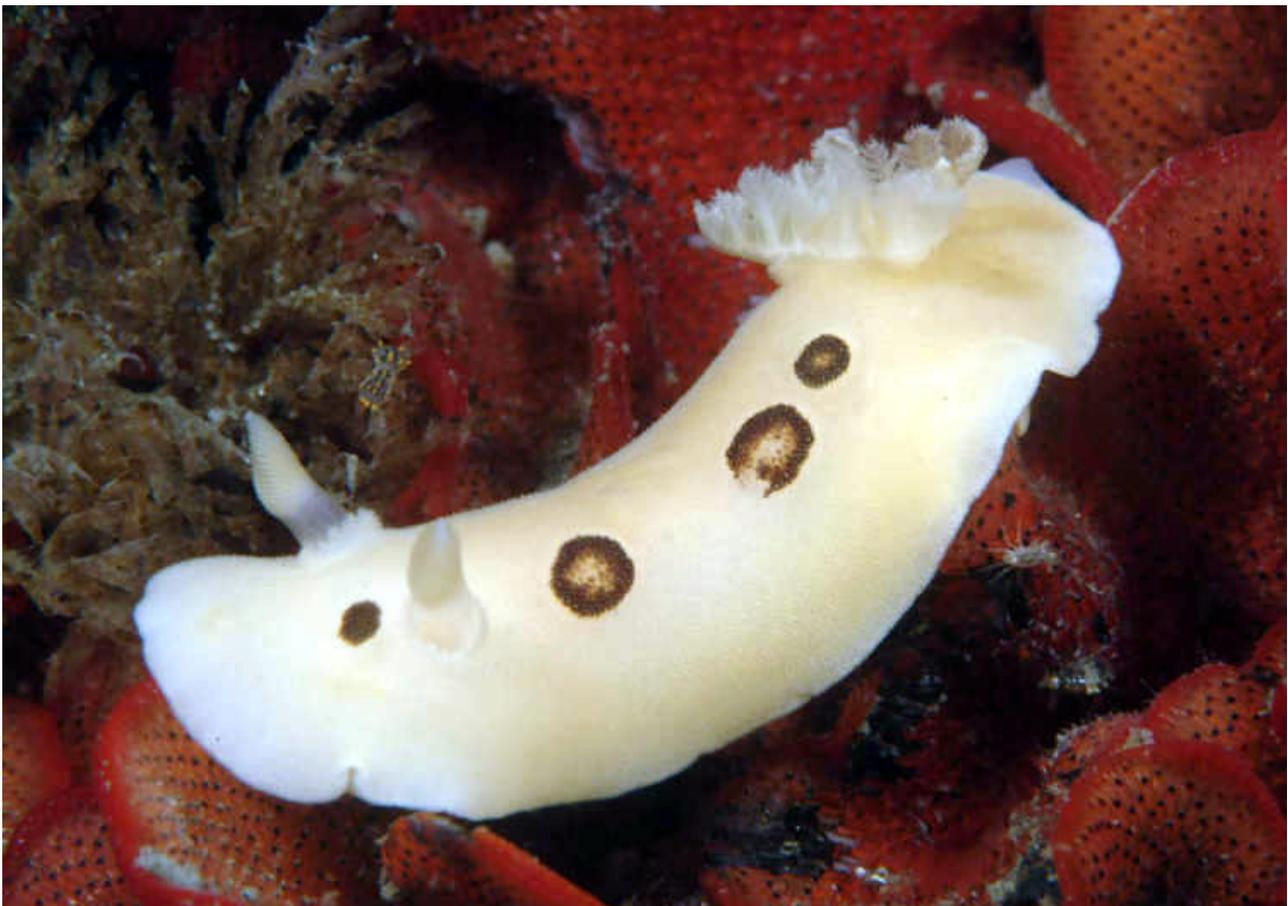
Clown nudibranch (*Triopha catalinae*) with withered right rhinophore (horseneck clam siphons in lower left)



Clown nudibranch (*Triopha catalinae*) head-on (this one has two good rhinophores)



*Aeolidia papillosa*, shaggy nudibranch



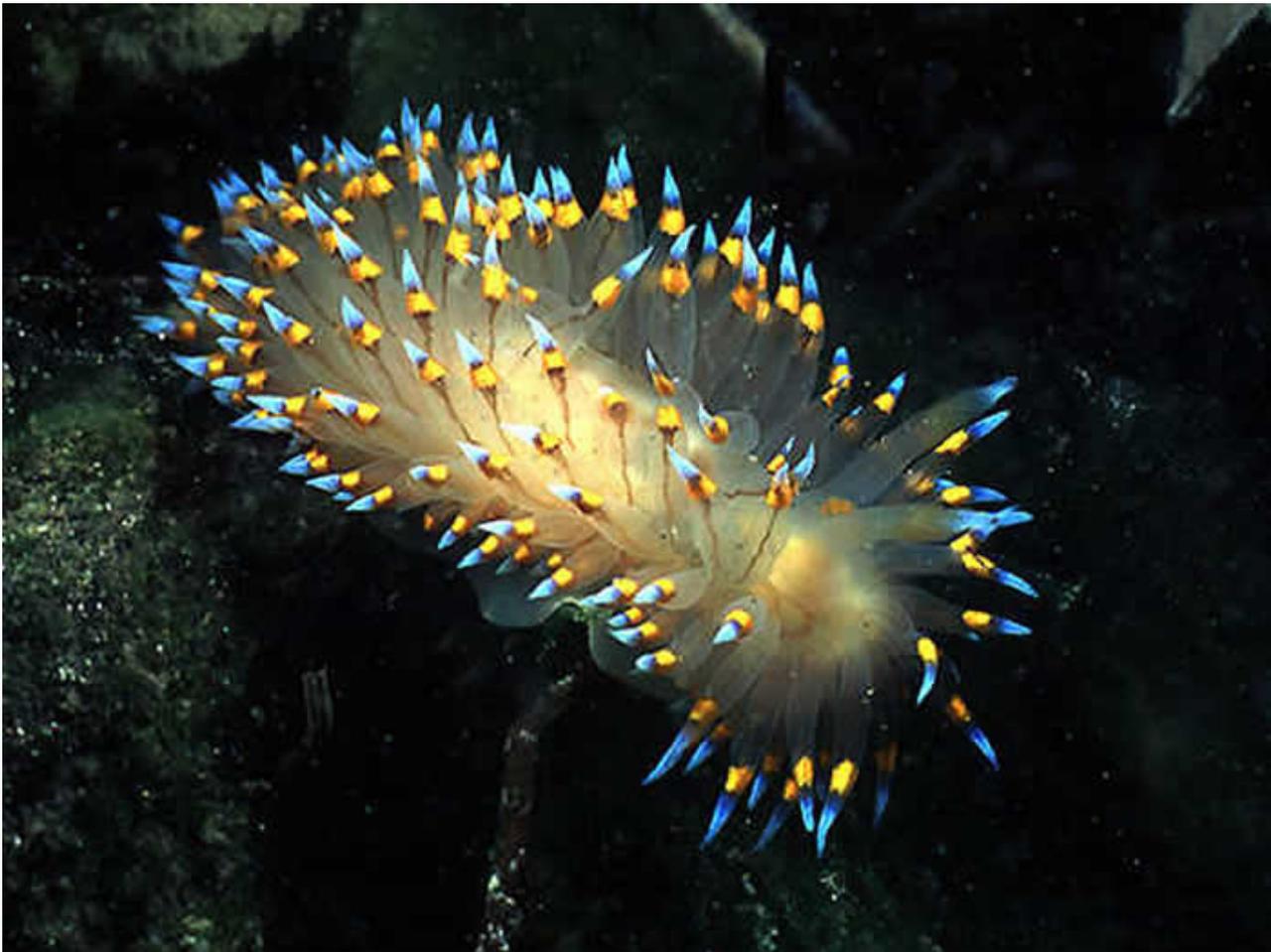
*Diaulula sandiegensis*, one of several dorid nudibranchs commonly seen



*Acanthodoris lutea*, "puff" nudibranch (my term,) very unusual



Mating *Polycera atra* nudibranchs



*Janolus barbarensis*, Santa Barbara nudibranch

Of course there are many other kinds of animals living under the pier. A favorite of mine is the fringehead blenny. Only a few inches long, they are found peeking out of almost any round opening—tubes, shells, bottles—all are home to fringeheads. They are not easy to spot. Most of the time you have to see some movement. But once you find one, you can stay with him/her for the rest of the dive if you want, because they rarely leave their shelter.

That raises an important point about underwater photography. When you find a good subject, **stay with it**. One of my first mentors, Jim Cooluris, taught me this a long time ago and it is one of the most valuable lessons I ever learned. Underwater photography is a low batting-average endeavor. So when you find a good subject, it is best to stay with it and make lots of images, rather than just firing off a few frames and moving on. There is no guarantee that you are going to find a better subject later in the dive, and a bird in hand is better than....well, you know. You might think that your first image is a masterpiece, probably because of the excitement of finding a good subject, but it rarely is. Take lots of frames and change something in every frame; composition, angle, exposure, strobe position, etc. The keeper image, the one you are happiest with, is often one of the last ones you make.

Back to fringeheads. They will retreat back into their lair if they are threatened or disturbed, but if you keep still for a few seconds they will invariably peek out again, ready for a photo. Earlier I talked about seeing two different types of nudibranchs right next to each other—occasionally you can see two different types of **animals** right next to each other, like the

*Triopha* nudibranch crawling on the green wire and the orange fringehead just below it peeking out of its hole:



*Triopha maculata* nudibranch next to fringehead blenny peeking out of hole

This next one reminds me of the late film actor Marty Feldman, whose eyes pointed in two directions like this fringehead:



*Marty Feldman fringehead (actually Neoclinus uninotatus)*

Here are some other fringeheads I have met over the years under the pier:



*Fringehead having bad hair day in bottle (Neoclinus uninotatus)*



*Sarcastic fringehead (Neoclinus blanchardi)*



*Sarcastic fringehead (Neoclinus blanchardi)*



*One-spot fringehead (Neoclinus uninotatus)*



*Sarcastic fringehead (Neoclinus blanchardi)*



*One-spot fringehead (Neoclinus uninotatus) with Hermisenda*



*Orange fringehead, very unusual*

One day recently I saw a large sarcastic fringehead in an old length of 2" diameter PVC pipe:



*Sarcastic fringehead in 2" PVC pipe*

As is usually the case, curiosity got the better of him and he came out to see what was going on:



*Sarcastic fringehead in PVC pipe*

I'm not sure what made me think of this, but I put a small piece of bottom rubble just inside the edge of the pipe to see what he would do with it. He took it in his mouth and spit it out. He and I did this several times; it was kind of like playing fetch with my bulldog Sarah:



*Sarcastic fringehead playing fetch*

Invertebrate life bustles under the pier. Crabs of all sizes, from little hermits to the big sheep crab, scurry everywhere. Here's a favorite; he looks like an old blue-bearded man with attitude:



*Grandpa crab with blue beard; probably Cancer antennarius*



*Dungeness crab Cancer magister*



*Coon-striped shrimp Pandalus danae*



*Shrimp on red starfish, Heptacarpus palpator*

Occasionally octopi reveal themselves. They are fascinating animals; sensitive, curious, and intelligent. How do they manage all that without a spine? Sometimes if you hold a finger close to them in a non-threatening way they will reach out an arm and touch you. I have seen them hiding in tires, cans, shoes, an old broken boom box, and a toilet. Here's one that came right out into the open and posed. He tried to fool me by changing colors, but it didn't work. I knew what he was:



*Octopus*

Underwater visibility is never very good in the bay. The best you can hope for is about 15 feet horizontal. Occasionally you can barely see the surface from the bottom; that's about 30 feet of vertical visibility. However, that doesn't happen very often. Most of the time you can't see the surface when you are on the bottom. But you don't need much visibility for this type of photography; you just have to see your subject, which is normally only a foot or two in front of you. So a body length of "viz" is adequate for muck diving. With one exception, there are no really beautiful wide-angle or panoramic opportunities under this pier. The exception is the piling.

Piles are the vertical structural members that support the pier deck. The piles under this pier are wooden, about 16 inches in diameter (like telephone poles), irregularly spaced and at various angles to the vertical as seen in the following photo. Underwater they are **covered** with colorful life and they are absolutely beautiful. On good viz days the piles are particularly interesting to explore. You can still only see short pieces of them in one view, but those pieces are spectacular.



*Pier piling and superstructure looking southeast*

Twenty years ago, when I first started diving here, virtually every pile was covered with anemones. Near the bottom, in deeper water, plumose (*Metridium senile*) anemones abounded. Near the top, the colorful (mostly green) “congregating” anemones held sway. The *Metridiums* came in two colors, white and gold. In some areas the white predominated with a sprinkling of gold; the reverse occurred in other areas as seen in the photos below:



*Plumose anemones on vertical surface of pilings (white predominant)*



*Plumose anemones on vertical surface of pilings (gold predominant)*



*Barnacle in gold metridiums*

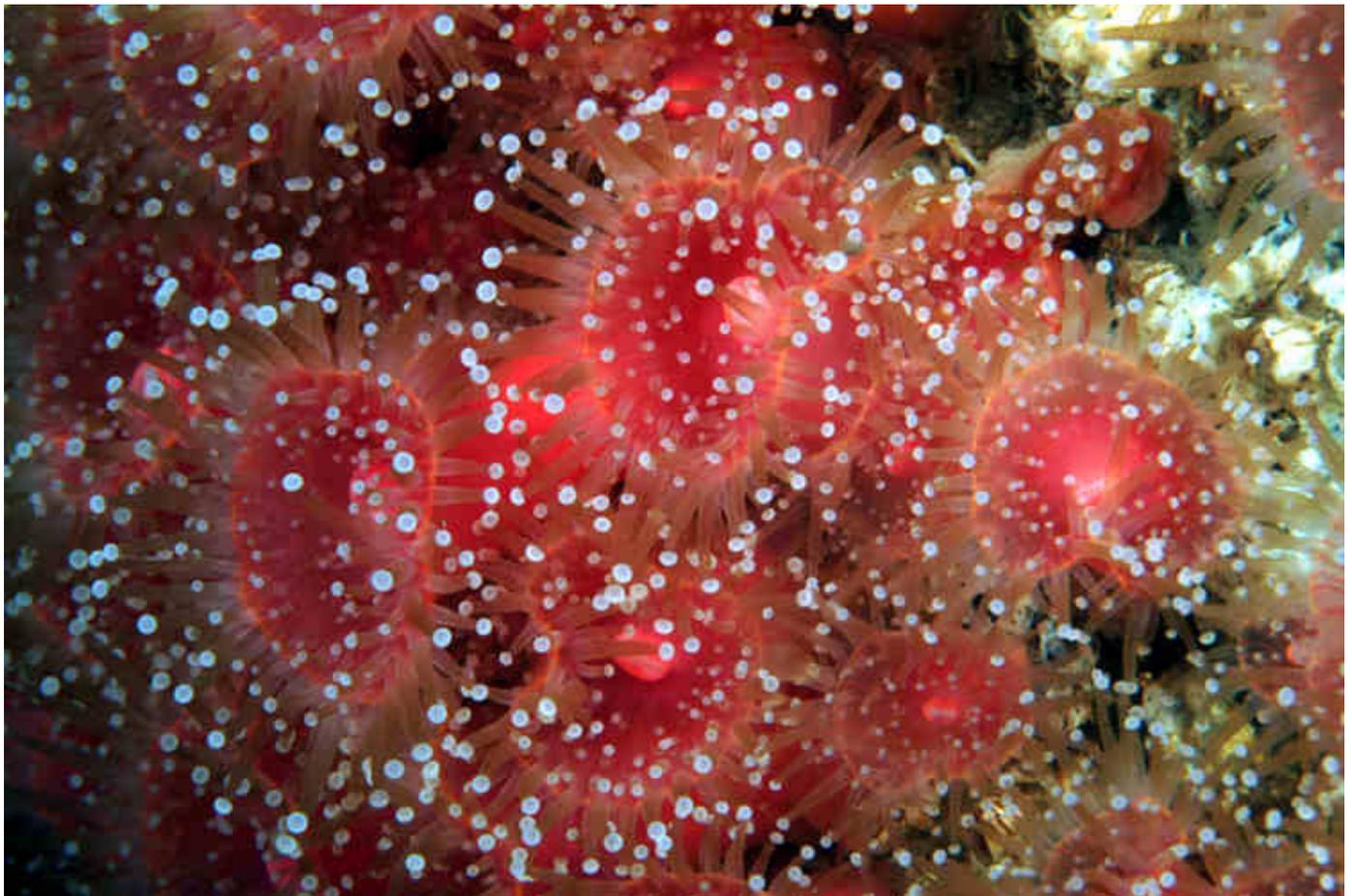


*Plumose anemones on piling*



*Plumose anemones on piling*

Concentrations of *Corynactis californica* anemones turn some pier piles into “strawberry fields forever.” They are small and very beautiful with their white “ball” tips. They come in various colors—here they are mostly red—but there are some colonies of gold or yellow. They are kind of an icon of California diving (as their scientific name suggests) and are found virtually everywhere along the California coast and the offshore islands.



*Corynactis* *anemones*



*Corynactis anemones*

Often there are barnacles among the *Corynactis*, feeding by waving their beautiful little fans:



Barnacle in *Corynactis anemones*

Over the years the life on the piles has changed. That, and the tremendous increase in the numbers of *Hermisenda* nudibranchs, are the most significant changes I have seen since I have been diving here. Everything else remains pretty much the same as I have always remembered it, but the carpet of plumose anemones that covered most of the piles 20 years ago has been largely replaced by a red *bryozoan*. Only a few piles now have the lush covering of anemones. Those tend to be, for some unknown reason, out near the ends of the top arm of the “T” and at the stem of the “T” where it meets the land. The vast majority of the other piles are now covered with red *bryozoan*. I have no idea whether that is a good or a bad thing, or neither. Perhaps it is just one of the normal cycles that happen in the ocean. One thing is for sure—there is as much life under the pier now as there was two decades ago; some of it is just different. I liked it better when the *Metridiums* were covering every pile, but the red *bryozoan* does make a nice negative space:



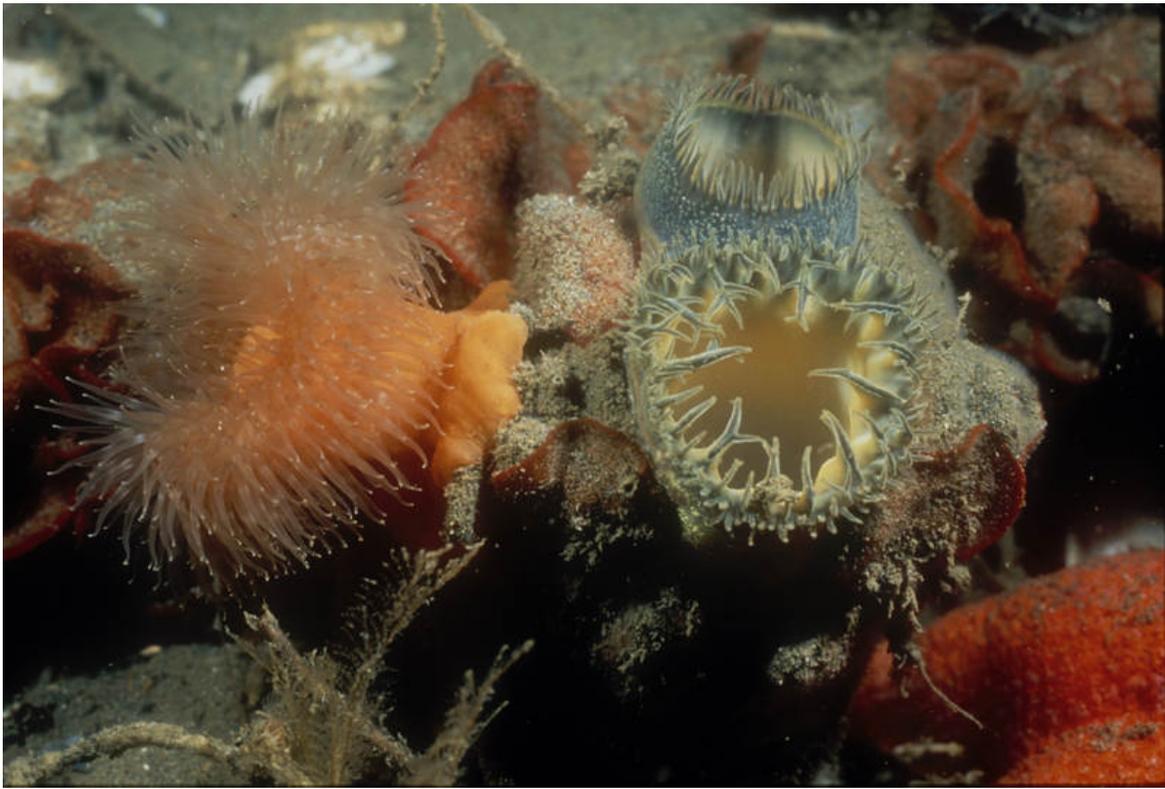
*Hermisenda crassicornis* on red *bryozoan*

Here is one of the prettiest benthic (bottom-dwelling) anemones I have seen under the pier:



*Moonglow anemone (Anthropleura artemisia)*

The bottom under and around the pier is covered with horseneck clam siphons. They are perhaps the most common living feature on the bottom; dull greenish-grey on the outside but very beautiful inside. They react by closing somewhat and retracting into the sand when they are touched. One side is for water in, the other for water out. The tentacles are shaped differently on the “in” and “out” sides. In the next photo the “out” side is above and the “in” side is below, as almost anybody could figure out by looking at the direction the tentacles are bending:



*Horseneck a.k.a. gaper clam (Tresus nuttallii) siphon on the right, golden plumose anemone on the left*



*Hermisenda in front of horseneck clam intake siphon*



*Geoduck clam siphons (in and out)*

You don't have to be underwater to enjoy the animals in Morro Bay. Here's everybody's favorite, the sea otter. They are often seen in the Bay, some tied up in kelp right next to the pier, like this one:



*Sea otter in kelp*

Perhaps the most unusual animal I've ever seen under the pier is this juvenile wolf eel. I came across him at the start of one of my first few dives under the pier, and he only gave me one shot before scurrying off into the green water. I didn't know what he was until one of my marine biologist friends identified him for me. I never saw another one in the next twenty years of diving the pier:



*Juvenile wolf eel (Anarrhichthys ocellatus)*

And finally, of all the thousands of images I've made under the pier in Morro Bay, I think this just might be my favorite. It says so much in so many ways:



*Two little Metridium anemones fighting for survival on a recently discarded beer bottle. Isn't nature grand?*



*Morro Bay sunset.*