

Aquarium Photography

by Jurgen Brauer

What to do when the photography urge itches but you can't get wet? Answer: grab your camera gear and go to a nearby aquarium. And grab your diving gear just in case: some aquariums, as my daughter and I found out, do let you jump right in.

Many aquariums of course recruit volunteer divers for fish feeding and tank cleaning duties. That is a good option for local divers. But what's the traveler to do? We have found, to our delight, that you do not always have to be in the water to take interesting "underwater" photographs. The jellyfish tank on the cover page - this one in Cape Town's Two Oceans Aquarium - certainly evokes plenty of underwater memories. More on Cape Town later in the story.

I report on three very different kinds of aquariums. The first is the venerable Berlin Aquarium which we visited in the summer of 2002. Opened on 18 August 1913, the year before World War I, it is actually aquarium, terrarium, and insectarium all in one. Built adjacent to the Berlin Zoo smack in the city center, it is among the oldest aquariums in the world. Despite substantial rebuilding after World War II, its age shows in the somewhat constrained layout of its three floors. The main floor consists of what seems like hundreds of mostly smallish tanks, and the floors upstairs contain vast numbers of large and small terrariums, packed with reptiles,



raggedtooth.jpg [144dpi; 567h x 756w pix; flash; 12mm; F/2; 1/50sec; ISO-100]

amphibians, and insects. You walk the aquarium the way you walk the British Museum: until your feet fall off, so overwhelmingly species-rich is the place. Indeed, it is one of the largest of its kind in the world. In return, you are provided with a

gamut of photographic opportunities from safely-ensconced poison-dart frogs to equally safely-distanced giant crocodiles kept in the courtyard to tarantulas and stick insects to rare stonefish and every exotic creature you ever wanted to see



kelp.jpg [144dpi; 567h x 756w pix; flash; 7mm; F11.8; 1/30sec; ISO-115]



salmon.jpg [144dpi; 567h x 788w pix; no flash; 7mm; F11.8; 1/13sec; ISO-200]

All pictures taken with an Olympus C-3040Z digital camera, using an Olympus PT-010 housing for the underwater photographs. The focal-length data is digital. 7mm digital corresponds to 35mm and 21mm digital corresponds to 105mm for a 35mm film camera. The kelp and shark-tank pictures were taken with an Inon UWL-100 wide-angle lens attachment that screws onto the PT-010 housing.

and photograph.

Photography through the glass offers no apparent problem, as the sample shots of the mudskipper [mudskipper.jpg] and the snake [snake.jpg] illustrate. We avoided glare by gently putting the rim of the camera lens right on the acrylic glass and then do the focusing, checking the desired effects via the screen of the digital camera (an Olympus C-3040Z). Be careful not to slide the lens rim across the glass as it may scratch the acrylic surface. Some subjects sit right by or even on the glass so that you can do macro photography as close up as the width of the glass.

Depending on the species in the tank, light is often ample but you cannot provide additional light to eliminate shadows or highlight features that caught your interest. You have to work with what the tank and the species offers you at that moment. We have not tried it but one may be able to use a tripod placed close to the glass and use a remote shutter release for long exposure of "dark" tanks. Putting your lens rim on the glass also means that you may not be able to capture larger or active subjects. A wide-angle lens and fast shutter speed might help.

An entirely different sort of visit was not to an aquarium per se, but to an exhibit of mountain lake ecology housed in the 14th century Chateau de Annecy overlooking the small village of Annecy, France, near the French-Swiss border.

On a business trip to give a lecture in nearby Grenoble, an opportunity come up on the preceding weekend to see Annecy, a lovely small town in the region of Savoy. In the town

castle, I discovered the ecology exhibit and a tank full of bunched-up lake salmon proved irresistible to photograph [salmon.jpg]. I took the picture through the glass, using long exposure. In our travels, we have come across small exhibits such as this one from time to time. Since you are likely to have your camera gear with you, don't overlook the "underwater" photographic opportunities these exhibits provide.

Berlin and Annecy are interesting contrasts - one is a major world city, the other a small village nestled against the Alps - but both leave you dry. In contrast, the relatively new Two Oceans Aquarium in Cape Town - opened in the mid-1990s - is one of the few in the world where you can sign up for a regular dive in one or both of their big tanks.

One, the kelp tank [kelp.jpg], sported a frigid 55 degrees Fahrenheit and was stocked with an assortment of species that fairly mobbed us as soon as they got "wind" of the treats we brought along. Since there is a good bit of surge, you do need advanced diving skills to keep away from the kelp and the easily-scratched acrylic glass. Otherwise, it's plenty of sheer fun to swim around in circles and experience a half-hour in the life of aquarium fish. Children trooping through the exhibits squished their noses against the glass and watched us big-eyed. Parents waved happily as we photographed them and their children.

The Cape Town aquarium leases space on the aquarium roof to an incredibly nice fellow by the name of Zaid Manchest. He conducts the daily dives (at 10am, 12n, and 2pm) which are



jellytank.jpg [300dpi; 1770h x 1329w pix; no flash; 7mm; F/1.8; 1/8sec; ISO-200]

preceded by a half-tour introduction, the inevitable diving paperwork, and suiting up. (Bring your own equipment or rent it.) The aquarium highlight by far, proved to be the second tank, the shark tank. Stocked with cownose stingray, a hawksbill turtle, smaller shark species, and plenty of other fish, its most prominent inhabitants are four female and one male Sand Tiger sharks (also known as Ragged-Tooth sharks) of impressive size. We entered the 5-meter (15 feet) deep tank from the aquarium roof, gently sliding

off a diving platform near the inner tank wall, and quickly descended to the bottom. Keeping our arms and legs well tucked in, we crouched along the bottom of the tank for our allotted half hour. The sharks are well-fed of course but on occasion, Zaid said, a fish or two go "missing." A special feeding on Sundays gauges how hungry they are. Our dive was Friday ? and we did a second one Saturday morning.

On the first dive I was overly cautious, hugging the tank bottom. Since the sharks were in

the middle of the water column, use of the flash overexposed their nearly white underside against the surface light. After reviewing the shots later that day on the laptop computer at the hotel, it turned out that I did not get any good shots at all. We begged a second dive off Zaid, and discussed our photographic needs with him. Graciously, he accommodated us and gave us a private Saturday morning tour - and showed off an incredible antic to boot: he swam up to a Sand Tiger, gently touched it under its chin, slid his hand into its mouth, pulled out a tooth, turned around, and gallantly handed it to an unbelieving Anne. Then he turned in my direction - I had drifted to a mid-water column position along the outer wall to photograph the event - and pointed to something behind me. I am sure you know the feeling: undefined, yet something's definitely up. I turned and saw a Sand Tiger calmly heading straight for me. "Well," I thought, "I might as well take a picture."

[raggedtooth.jpg]

Shooting wide-angle from two feet away, it's no secret to me anymore why the Sand Tiger also goes by the name of Ragged-Tooth shark! In the event, the fellow passed me quite unperturbed. I guess he wasn't hungry. Actually, Sand Tigers are thought to be relatively non-aggressive toward humans. Still, they are sharks, and these guys were running at 2 to 2.5 meters (8-9 feet) in length.

I wanted to take an evocative shark picture but had the following photographic problem. As is well-known, the biggest digital camera problem is the shutter-delay of as much as one second between pressing the



snake.jpg [144dpi; 567h x 837w pix; no flash; 10mm; F/2; 1/30sec; ISO-124]



mudskipper.jpg [144dpi; 567h x 756w pix; no flash; 17mm; F/2.3; 1/60sec; ISO-100]

shutter button and the picture being recorded. Meanwhile, the subject moves. One solution is to pan the camera with the subject. But in low-light conditions, there is the additional problem of needing a long exposure time. So now you are panning while the shutter stays open and you may get nothing but streaks. Exposure time is reduced with the use of the flash, but the powerful digital

flash has only limited strobe-setting controls and easily overexposes the subject. My solution [sharklight.jpg] was to distance myself from the shark so that the build-in flash would not reflect off the subject but would trick the camera electronics to select a high shutter-speed, combined with a wide F/2.6 aperture and high-speed "film" (at ISO-400). The

result is close to what I wanted: a Sand Tiger silhouette solely defined by the overhanging aquarium lights. You don't so much see as feel the shark.

The Cape Town aquarium is very modern. Plenty of space, lots of educational exhibits, a touch tank that sports a completely unafraid sea anemone, stretching out its tentacles as if to welcome you, and a cool rig that focuses a microscope onto feeding coral. The microscope is hooked up to a video camera which, in turn, is hooked up to a TV monitor. The attendant drops nutrients in the water, and you watch the polyps extend and feed. Unfortunately, I did not have an adapter with me to photograph the polyps through the microscope eyepiece.

One of the advantages of aquarium photography is that you do get to photograph species you are unlikely to encounter in the wild. Take the huge, and aptly named, Giant Spider Crab for instance which ordinarily lives at depth below 50 meters (150 feet). Anne and I had met a truly giant specimen - surely five feet in diameter - at the Zoological Museum at the University of Cambridge in the summer of 2002, but it was a special treat to capture a live one on film [giant.jpg]. The one pictured here measured perhaps near three feet in diameter.

Note the purplish light which simulates reduced sunlight at depth: it's not a digital effect playing with Photoshop color adjustment levers.

The lesson then is simple: next time you itch for "underwater" photography, don't forget to check out the nearest aquarium while you travel.



sharklight.jpg [144dpi; 567h x 841w pix; flash; 21mm; F/2.6; 1/100sec; ISO-400]



giant.jpg [144dpi; 567h x 756w pix; no flash; 7mm; F/1.8; 1/100sec; ISO-200]

Jurgen Brauer and daughter Anne

Economics professor Jurgen Brauer and 11th-grade daughter Anne discovered u/w digital photography in Bonaire in December 2001. They have since traveled and photographed in Cozumel, the Azores, and South Africa.



[Photo: Zaid Manchest.]

HMS Royal Oak video



**“a workmanlike, professional
production, and worth viewing”**
John Bantin, Diver magazine

The wreck of HMS Royal Oak in Scapa Flow is a designated war grave and all diving is prohibited but in 2000 a special permission was granted for the wreck to be filmed as a moving tribute to all those who lost their lives.

This new professionally produced 50 minute video includes underwater images of the wreck which have never been seen before and there are interviews with survivors and Orcadian Sandy Robertson who was the first diver to go on the wreck the day after she sank. Also included is coverage of another unique event when the ashes of Dorothy Golding, wife of Bandsman Arthur Golding, who went down with the ship, were taken down by her grandson, Christopher Kilford, and placed in the wreck to reunite the couple.

The finale is the unfurling of a battle ensign on the upturned hull by a Royal Navy diver on the anniversary of her sinking and the final credits include the names of all those who died in the tragedy.

Running time 50 minutes. Narrated by Tom Fleming. Produced by Ocean Optics Ltd. Directed by Peter Rowlands

The video costs £16.95 (+£2.50 UK postage). Total £19.45. Please send cheques payable to PR Productions and send them to: Royal Oak Video, 13 Langley Avenue, Surbiton, Surrey KT6 6QN. Credit card tel & fax 020 8399 5709

<http://www.hmsroyaloak.co.uk>

I ordered the video and it arrived last Monday. I've only had a chance to view it today. I was so profoundly moved (and I am a hard bitten first world war historian) that I had to email you.

I was impressed with virtually all aspects. I thought the balance between interviewees, diving footage and historical context was spot on. This is something not always achieved in documentaries - I know because I used to make them. The interviews with the survivors threw the whole affair into stark relief. I cannot praise this video highly enough. And I thank you for your web site.

**Warm regards
Pamela Armstrong**