



Underwater Cameras & Housings at Photokina 2010



Nicholas Hellmuth and Sofia Monzon



AquaTech Underwater housing for Canon by Sofia Monzon at Photokina 2010

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Our interest and experience with underwater photography

Decades ago I had a Nikon. I took this with me to the Bay Islands where I received my diving instruction and dive license. But since I am a workaholic, and since there are no coral reefs on the Pacific Ocean coast of Guatemala, I did not do much underwater photography since then, though I did snorkel a few times on the cays of Belize. I remember most one of the typical situations where the resort has found areas where the harmless sharks, sea turtles, stingrays and other interesting creatures come at a certain time to be fed.

Then several years ago I began to realize that the water lily flowers and plants that I have been studying for decades are best studied underwater rather than the flowers and pads that are so beautiful above water. FLAAR is an archaeological and anthropological research institute. My PhD dissertation was on the iconography of Mayan cosmology related to water: seas, rivers, lakes, and oceans.

So beginning in 2009, I realized that I needed to photograph the water lilies underwater. This need is what is resulting in our evaluation of which camera equipment and lighting is best for use underwater.

The Maya territory is bordered by the Caribbean on one side and the Pacific on the other side. Conch shells were



Dr Nicholas Hellmuth standing on a ladder (so he won't sink into the swamp mud) in Monterrico mangrove swamp eco-system, a few meters inland from the Pacific Ocean coast of Guatemala.

used as musical instruments. Spiny oyster shells (*Spondylus*) were used as decoration, especially for perforation rituals. Shark's teeth were collected by the Maya and pictured in funerary ceramic art. The sea is pictured in murals on temple walls (at Chichen Itza, Yucatan, Mexico, for example).

So I decided to see what we could learn by having some underwater photographs of the water lily eco-system and then the reefs. The water lily is the plant and flower most frequently pictured in royal sculpture, murals, and as paintings on funerary vases. Obviously the water lily grows in fresh water, not out in the sea. But most of the other water-related aspects of Maya religion come from the sea, specially the reef areas which abound off the coast of Mexico, Belize, and the Bay Islands area of Honduras.

The first camera I tested for underwater photography was the Canon PowerShot D10. This is a normal camera, simply well enough sealed to be able to function underwater down to a limited depth. For photography of water lilies we need to photograph only down to two meters, three meters at most. But most of what we wish to photograph is from one to two meters deep.

The Canon PowerShot D10 did well, so we decided to do more underwater photography. I preferred to devote one camera to working underwater (rather than getting a case for one of our regular DSLR Nikons or Canons). So recently we purchased a complete housing and strobe from a company that included SEA&SEA equipment.

I was immediately upset that we had been shafted by the sales person into buying what later turned out to be inadequate for serious photography.

So at Photokina we were all interested to see what kinds of underwater photography equipment would be good.



Nicholas checking his last image from a Canon PowerShot D10 getting ready to submerge this easy-to-use point-and-shoot underwater camera in the Monterrico swamp eco-system of Guatemala. We would like to test and evaluate how an underwater housing on a Nikon D300 DSLR or Canon EOS DSLR can do better than this convenient compact digital camera.

Underwater Cameras, Underwater Housings

The Photokina index for Underwater cameras was relatively useless. It included point-and-shoot cameras but almost none of the serious underwater cameras. So I had to inspect hall by hall, booth by booth. Here is where it helped to have three of us at Photokina: me, Eduardo Sacayon, and Sofia Monzon.

Aqua-Fototeam, 3.1, B 29

AquaTech, 4.1, D 11A

DiCAPac, 3.1 A26

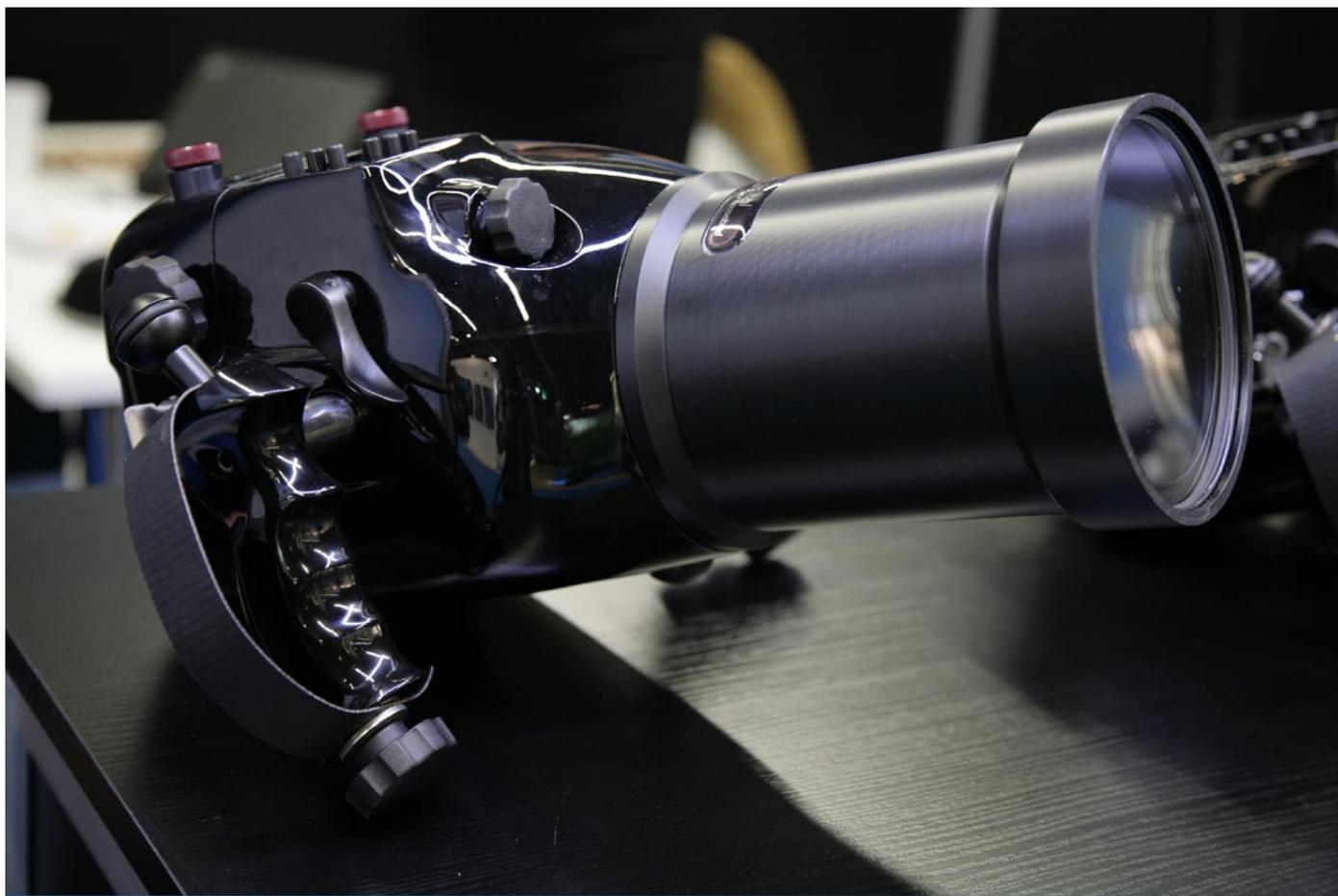
Hugyfot, 3.1 A25

Nauticam, 3.1 B26

SUBAL, 3.1 B24

Ultima Digital, 3.1 A25

Serious underwater housings for serious underwater photography



Ultima Digital Hasselblad H system housing at Photokina 2010

Nauticam

The catalog of Nauticam is of professional quality. This company makes three models for Nikon cameras but only two models for Canon cameras. The company offices are in Hong Kong.

NA-D90
NA-D300, D300s
NA-D700

NA-7D
NA-550D

So nothing for the Canon Rebel series; nothing for the Canon EOS 5D.



Nauticam NA-D300 at Photokina 2010

SUBAL

Subal lists their first address for Austria and a second address for Germany. It is noticeable how few American underwater camera companies exhibited, AquaTech being the notable exception.

Subal ND3, ND3S, for Nikon D3, D3X, and D3s

Subal ND700 for Nikon D700

Subal ND300, ND300s for Nikon D300 and D300s

Subal ND90 for Nikon D90

Subal CD3, Canon EOS 1D, 1Ds Mark III (rare to find housing for this)

Subal CD4, for Canon EOS 1D Mark IV

Subal CD5M II, for Canon EOS 5D Mark II

Subal CD7, for Canon EOS 7D

Subal CD500 for Canon EOS 500D

Subal has a nice range of viewfinder optics; I have not noticed these available from some of the other brands. Potentially inadequate underwater housings for not more than entry-level

SEA&SEA did not exhibit at Photokina, but the housing and camera sold to us by one of their dealers I would list as potentially inadequate.



Ikelite underwater housing at Ewamarine booth at Photokina 2010

Aqua-Fototeam

Aqua-Fototeam was offering equipment from Epoque World, Tokyo, Japan.

Hugyfot

Hugyfot is a Belgium company.

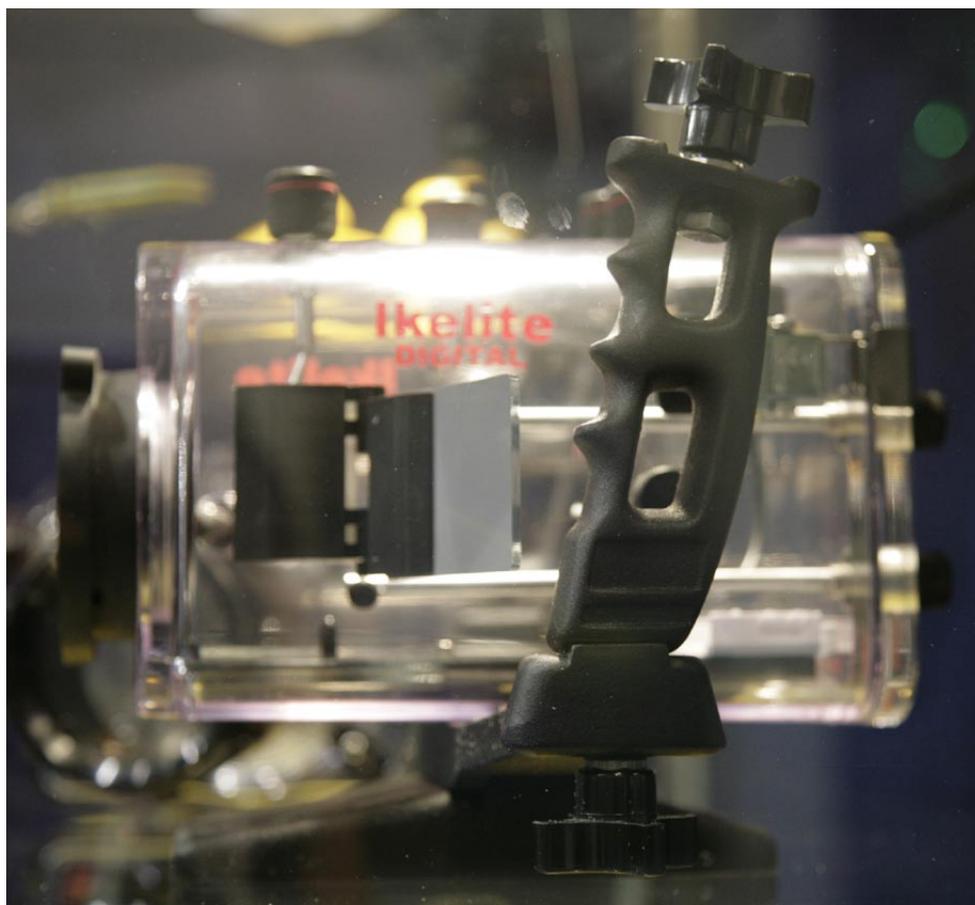
I would rate their "vacuum seal test" gizmo as an excellent idea. Hugyfot offers two different viewfinders. In general I find their range of accessories excellent.

I was not able to judge their other offerings since the one catalog that I ended up with is more on the company philosophy and history (it is helpful to know they have been interested in underwater photography since 1953). So clearly Hugyfot has experience.

Their price list shows a wide range for Nikon and Canon, but none for the high-end Nikon D3 or high end Canon EOS 1Ds Mark III.

Epoque World

Their Japanese equipment was being presented at Photokina by Aqua-Fototeam. The Epoque catalog shows mid-range underwater housing for Nikon and Canon DSLR camera bodies. Epoque also offers a few underwater housings for video cameras.



Ikelite underwater housing at Ewamarine booth at Photokina 2010

AquaTech

The booth at photokina in aquatech showed their main housing cameras and accessories that caught our attention because of its functionality and versatility.

Their housing for Nikon D700 caught our attention since a member of our team of photography just purchased a camera of this model.

They have housing for Nikon and Canon too, for different models respectively:

AquaTech housing for Canon

EOS 5D MkII
EOS 1D MARK IV
EOS 7D

AquaTech housing for Nikon

D3, D3X
D300s
D700
D3S



AquaTech for Canon Mark II at Photokina 2010

Ultima Digital

Ultima Digital, introduce their new product at Photokina 2010, it was the 600 Ws underwater studio light, that is a very good light system and take one of the best cameras for quality concerns.



Ultima Digital booth at Photokina 2010

Ultima Digital Hasselblad H system housing

Technical info

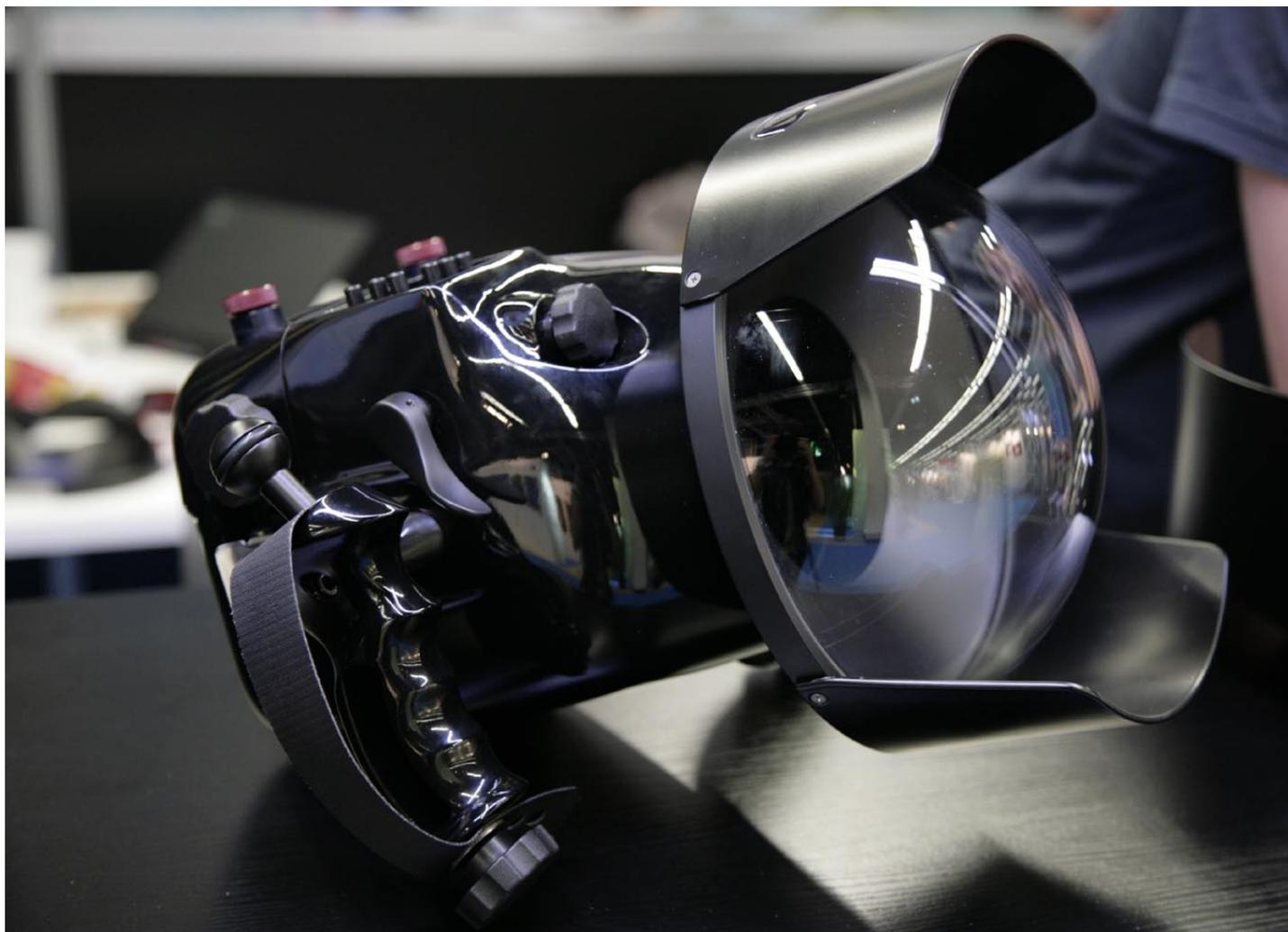
- Body Seawater-resistant aluminium cast body CNC machined
 - Depth rating 60m / 200ft
 - Dimensions with hand grip W340mm x L220mm x H220mm
 - Weight 6,400g without camera
- Slightly negative underwater (depending on lens and port)



Ultima Digital Hasselblad H system underwater housing at Photokina 2010

Underwater camera housings for medium format cameras

We still use our Hasselblad ELX camera from the 1970's, albeit of course with a digital back (Phase One P25+). Naturally we are tempted with the automatic focus capabilities of the newer Hasselblad HD4 system since their lenses are auto-focus. So it was interesting to see the catalog for underwater housing from TZKY design Ltd, in Budapest, Hungary.



Ultima Digital Hasselblad H system underwater housing at Photokina 2010

Simple underwater solutions for entry level

DiCAPac makes what at first looks like a zip-lock plastic bag for your camera, supposedly waterproof to 5 meter depth (about 15 feet). I am not sure I would want to trust my \$2000 DSLR to a plastic bag, and I am not sure that photos taken through a plastic bag would be all that good either.

Frankly I would advise using a camera such as the Canon PowerShot D10 or any of the many other point-and-shoot cameras that can easily be used underwater (without any case) to that depth.

Discussion of underwater camera housings

First I notice how few underwater housings are available for the Canon EOS 1Ds Mark III. This is one of several Canon cameras that we have.

Conspicuous by their absence

SEA&SEA did not exhibit under that name. This leads me to wonder if they are a serious international company, since Photokina is the largest international photography equipment expo in the world. Or perhaps SEA&SEA exhibits only at underwater photography events, or only at scuba and diving expos?



SEA&SEA under water housings at PMA 2009

Appendix A

The Underwater Equipment that we are totally dissatisfied with

The negotiations with the camera store to sell us the underwater camera equipment were undertaken by Eduardo Sacayon.

We made several basic mistakes:

First, we were snookered into buying accessories that we had absolutely no need of whatsoever. We already have battery chargers up the gazoo. The last thing in the world we need is a battery charger. You can buy these at any WalMart or Target or even Office Depot probably. Second, the physical camera that we ended up with was a rudimentary point and shoot camera.



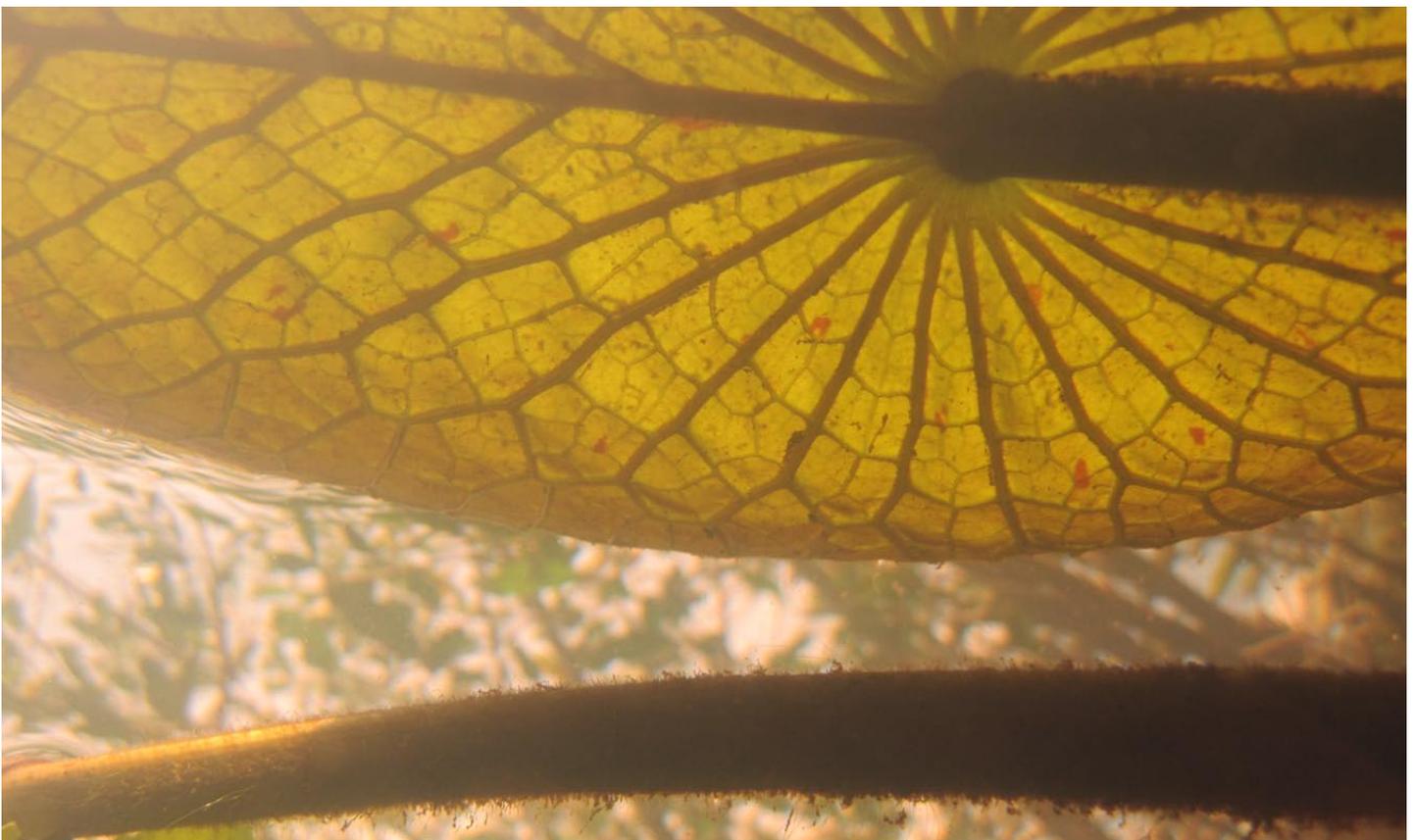
Here is the equipment we bought from Backscatter, that we are not yet satisfied with. We will try it one more time, this next time with improved camera settings (that they suggested would result in better photos underwater). But so far the \$299 point-and-shoot Canon D10 has produced much better photos than the \$3000 system from Backscatter (Fisheye FIX with SEA&SEA strobe). But we will try the Backscatter system one more time in December.



The camera assembly is quite methodical to ensure the care of the equipment



Ivo Orellana marine biologist observing the results of the photos taken



Picture taken with the Canon S90 with underwater housing by Sofia Monzon



Ivo Orellana marine biologist looking for the best scenery, to show ecosystem of the water lilies



This is the Canon S90 with all the accessories that Backscatter suggested. Using this system is not intuitive (as we found out when more than 50% of the photographs were unusable, and more than 90% were uninspiring). You need experience to get the best results. And/or you need to be told which settings result in which kinds of results. We did not learn this until after the first session produced such unimpressive results

Note how good this image from the \$299 Canon point-and-shoot D10 has turned out. We did not get anything even close to this with the \$3000 system, so you can understand why so far we are less than satisfied.



Picture of a waterlily pad taken with the Canon D10 with underwater housing
by Dr. Nicholas Hellmuth

Appendix B

Magazines and websites on Underwater Photography

Magazines specifically of underwater photography are still not very common so we found just one in with a hard-copy edition and some online magazines or websites dedicated to this part of photography.

- **UwP magazine**

Is the only magazine we could find listed on the website like a magazine exclusively on underwater photography, which is pretty impressive considering that people interested in the issue are a small albeit vocal part of the community of photographers. The magazine also is quite complete and useful for people who want to start or already are immersed in this vast world that is underwater photography. To info of the subscription here is a e-mail peter@uwpmag.com



- **DigiDeep**

Is a web site where you can find all kinds of equipment for underwater photography, also have a forum where people share their experiences in this field.

- **Underwater Photography & Dive Tours**

This is a web site where you can check places where you can find good targets for developing your underwater photography skills. They offer tours that are especially for divers who enjoy underwater photography.

- **CiberDiver**

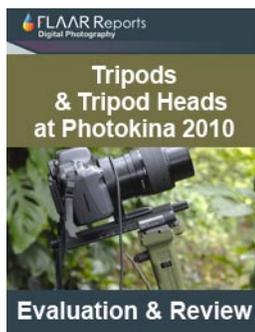
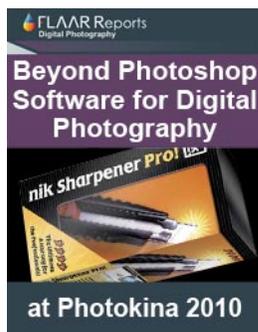
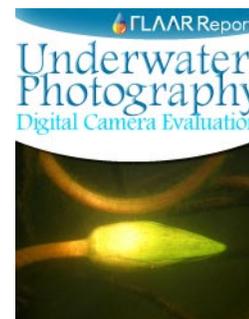
This site is especially for diving, but has a section where you have articles about underwater photography, which has useful information for people interested in the subject. Also has a gallery of stunning photographic examples in the deep sea.

- **Smashingmagazine 50 Stunning Underwater Photos**

For a photographer of any topic is very useful to have access to good photographs that show all the possibilities you can do, this helps to know the level where the pictures should come out. For this reason, is good if you take a look at this site which has a large gallery of wonderful photographs as examples of the variety of underwater photography.

FLAAR Reports

These are the FLAAR Reports that are being issued first



FLAAR Reports that will result from Photokina 2010

