



photo & video

Edited by Don Silcock

Flamboyant cuttlefish photographed with a snoot

Text and photos by Mike Bartick

Ask any photographer the one thing they would like to improve in their underwater images and most will likely say, “The lighting.” Lighting in photography is everything and shooting underwater often requires the photographer to read the ambient light and to create durable images on the fly. Unlike terrestrial photographers, underwater photographers don’t have the luxury of time and a studio full of equipment to help design their images, so many photographers have explored other, more portable methods to assist.

Snoots are an effective tool for underwater photography that gives the user precision control of light quality and direction that can be used for creating interesting compositions in macro photography.

But be sure to bring your sense of humor and be prepared for a challenge as learning to use them is anything but easy. That said, once your images begin to take shape, the additions to your portfolio and your understanding of light will reach new heights and be well worth the effort.

I’ve carefully crafted my first crude



Precision control of light Sensational Snoots

snoots with precise amounts of duct tape, tin foil, funnels and zip ties. These were so effective that I think I left a trail

of them across the ocean floor from Southern California to Indonesia and across to the Philippines. Recently, I have

decided to re-visit my love for snoot photography, and after seeing some of the new products emerging on the market,

I decided to go with a manufactured snoot over a DIY project—and I am happy that I did.





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So what exactly is a snoot?

Well, it's a device that fits over a strobe head that controls the direction and size of the strobe flash beam. The area of the beam is controlled by a variety of means depending on the brand of snoot and can range from a broad beam of light to a narrow more laser-like surgical tool.

Using a snoot will help you to create more dramatic compositions through lighting, cut down on backscatter and help you, the photographer, to totally control the direction of light and how the light source plays out in an image.

Often snoots are used off-camera, either handheld, pointed by an assistant or mounted on a tripod. While all of these

options work, I personally like to mount the device on-camera and use a long articulating arm for greater reach and control from behind my camera, which enables me to limit the task load and allows for quick and accurate changes.

There are many different brands of snoots to choose from these days. My snoot of choice is the Reefnet Optical Snoot, which is basically an articulating arm with fiber-optic lines on the inside. The base plate fits tightly and is secured over the strobe head in a screw-down method, and doesn't fall off when adjusted. The snoot base includes one arm but the other arm includes two interchangeable

tip sizes, which can be easily changed underwater.

The Reefnet device doesn't have an aiming light to help find the subject, which makes it tough to learn, but as a benefit, your subject won't turn its head away either.

I strongly recommend starting with the single arm and larger tip. Then, as your patience and skill levels develop, add the additional arm and try the smaller tips, because while the smaller snoot tip provides a tighter radius of light, it also increases the difficulty of using the device.

The flash beam is best controlled by the height of the tip in relation to the subject. The closer the optic tip is to the subject, the narrower and more intense is the beam, while elevating the tip from the subject broadens and softens the beam.

Technique

Shutter speeds, f-stops, lens choices and distance to the subject all come into play as the decisions on how to light your subjects will change the dynamics of each image. Pay close attention to the details as overexposing the highlights can happen easily when the tip and light source is close to your subject.

Techniques on how you use your snoot will develop with experience as each

subject requires a different method for lighting. Your techniques will also develop around the lens selection and style of photos you're creating.

Super-macro images tend to miss the point of snoot lighting but can benefit from the directional effect of an articulating snoot. When using a 100/105mm lens with a diopter, I like to use a more directional lighting affect by articulating the arm into a front lighting position, rather than standard top lighting. The front lighting plays well with a narrow depth of field created by using magnifiers and diopters, with the light precisely positioned to accentuate features and decrease shadows, rather than the standard overhead strobe flash.

The needlefinger shrimp (above) was shot by top lighting the subject, and while it works, I feel it doesn't quite have

the dramatic effect as a front lit image. Keep in mind that while using a snoot, sometimes it is more of what isn't in the frame than what is. Lens selection is key in this aspect.

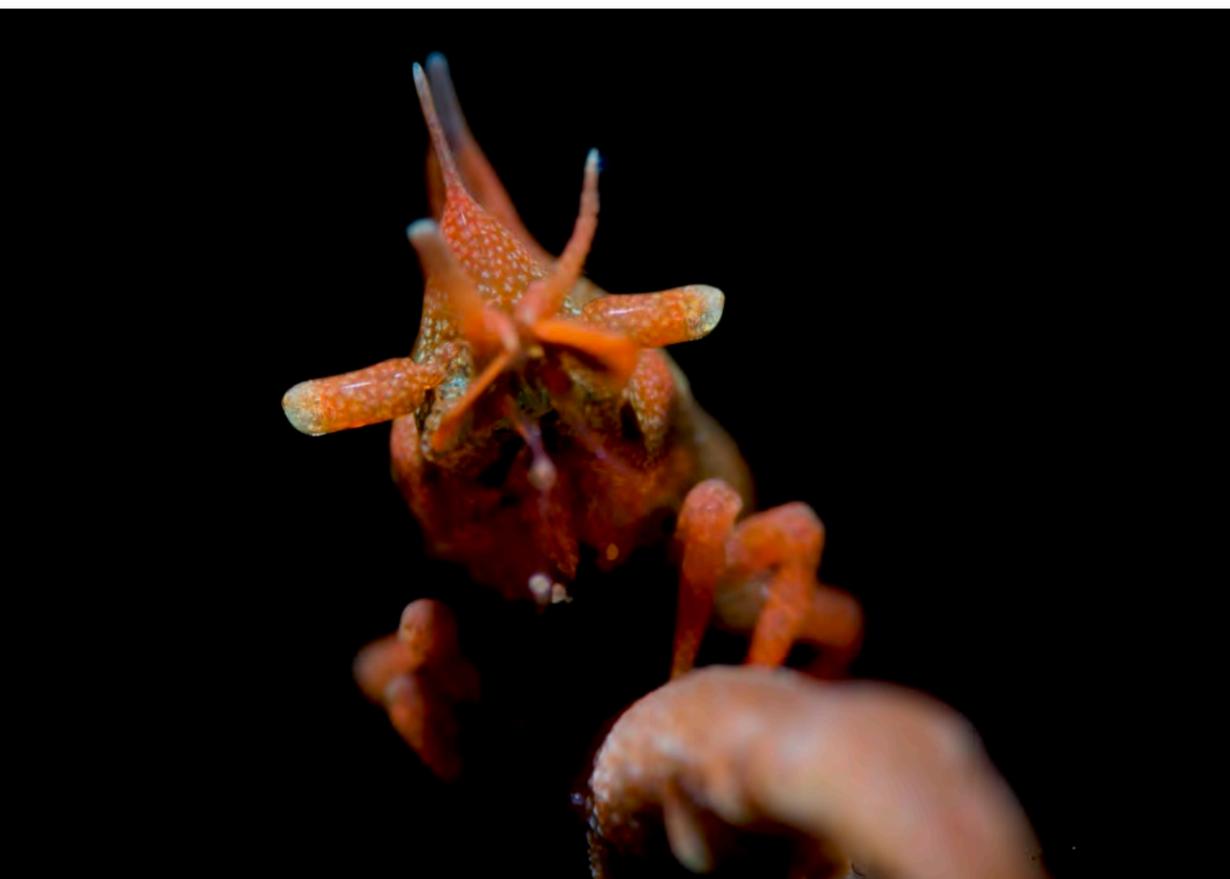
I prefer the 40-60mm macro range best as it allows a tight working distance and a better tonal quality of light since there is less water to shoot through, and it maintains the negative space that I'm after. The negative space is a key feature of using a snoot and should not be overlooked.

Special effects

"The Glow" is an effect that I strive for when shooting images of nudibranchs, and the more translucent the subject is, the better the glow will be. Using a snoot really increases that effect.

The softer directional lighting of an

Needlefinger shrimp



Pandalid shrimp



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Phylodesmium nudibranch (right); The author's camera rig setup with snoot (below center)



Snoots



articulating snoot works well for nudibranchs. As they tend to move and wrap themselves around objects, the snooted light will illuminate them in different ways.

Standard strobe light creates a similar effect, but the snoot seems to fill the subject with light in a unique manner that compliments a nudibranch's natural beauty and quickly creates more of an

artistic image, elevating the image from ordinary to something a bit more elegant.

When I found the orange and white gymnadoris (below), I quickly changed the tip to the narrow beam and concentrated on lighting just the front portion of that nudibranch. The natural teardrop shape



Orange and white gymnadoris nudibranch



of the notum stubby Rhinophores and flat colors were isolated by the narrow strobe beam creating a special composition that again helped to create

something different. A phylodesmium nudibranch (top right), or solar-powered nudibranch, is a perfect subject in illustrating the glowing effect. I used the wider tip to help capture the mane-like cerata and purple creamy pigments of the solar-powered

nudibranch while leaving everything else out.

Anticipating your subject's movement and positioning your light source, then waiting, is another useful technique for creating something special.



Hypseledoris apolegma nudibranch



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Yawning Ambon scorpionfish (left); Hairy frogfish (right, below); Harlequin shrimp (lower left)

backscatter to the point that there is little or nothing to do to edit one's image.

I have noticed that the skin tags and filaments surrounding an *A.striatus's* face form a natural frame that I have tried to bring out using standard methods. I've even resorted to cropping my images to bring that out, but with standard lighting, I have consistently missed or overlit my subject.

The directional beam of light cast by the wider tip enabled me to hit it just right, with hardly any post process editing.

Shooting in shallow daylight conditions using higher shutter speeds will decrease the ambient light almost completely, allowing for rich strobe saturation

and the use of higher f-stops to retain the natural beauty and details of your subject.

Tips

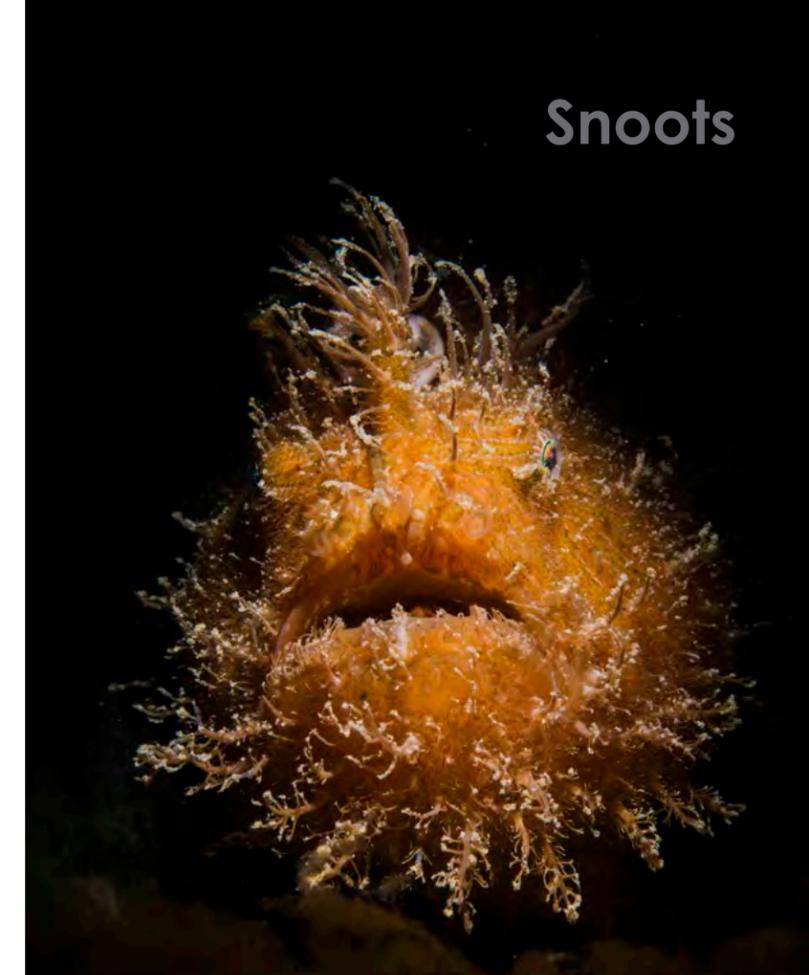
In summary, here are a few tips that might help when you are attempting to use a snoot with or without a focus light for aiming:

- Get to know your lens and working distance.
- Compose your shot, then articulate the snooted strobe head for lighting.
- Make small corrections and movements.
- Try using the snoot at home before taking it underwater.
- Use the larger tip first.
- Sedentary objects and critters make the best models.
- Change from landscape to portrait.
- Higher shutter speeds help to decrease the ambient light.
- Distance of your light source from the subject will soften and widen the beam.

I rarely dive without a snoot these days, especially when using my 60mm macro lens, and when I set up my system, I put the snoot onto my left strobe or use the cold shoe mount on the top of my housing.

It's really important that I dedicate my left hand to making adjustments and my right hand on the camera controls, as I don't like the tripod or off-cam-

Snoots



Snooting scorpions

A surprising benefit of using my snoot was discovered while shooting a smaller Ambon scorpionfish (*Pteroidichthys amboinensis*). In the past, I have struggled with creatively lighting Ambon scorpionfish and other filamentous critters. Cryptic subjects blend in well with sand and algae and are difficult to separate from that element in an image.

Using a top/front lighting angle on the snoot, I was able to keep the light above the substrate and on the subject, creating a deep rich image that didn't lose quality in the highlights.

I enjoy shooting other benthic creatures such as octopus and flamboyant cuttlefish, but my favorite has to be the hairy frog-



fish (*A. striatus*). Using the snoot on the hairy's has created incredible results, as the snooted light really brings out the natural beauty of these special creatures.

The *A. striatus* tends to inhabit the shallows here in Anilao,

Philippines. Subsequently, the silt and surge can be problematic at times, but the snoot helps to decrease the



era method because it takes far too long to set up the shot before your subject is spooked and decides to move away.

Having your snoot mounted on the strobe will help you capture more images, as you will quickly pick up a feel for the position and lighting of your device.

Lighting is everything with underwater photography, and having the power to control the light is an effective tool that should be in every underwater photographer's gear box. The changes it will make in simple or complex subjects will add to your portfolio, and as your skill level and confidence grows, so will your subjects and shot selections.

Now get out there and have an adventure! □

Mike Bartick is a Photo Pro at Crystal Blue Resort, Anilao, Philippines.





Sealux 4K CC1DC Housing

Sealux has released a new housing for the Canon EOS 1D-C. The 4K CC1DC is specifically designed to maximise the underwater potential of the 1D-C's excellent video capability of True 4K (4096 x 2160 pixels) and innovative functions such as Canon Log Gamma. Sealux has designed the 4K CC1DC housing with dial controls on the left for zoom and on the right for manual focus. It also has three viewing windows and accepts their port system.



Canon XF200 and XF205 Camcorders

Canon has announced the imminent release of two new compact professional quality camcorders—the XF205 and the XF 200. Both camcorders offer HD video in MXF and MP4 formats plus manual control of focus, zoom and iris. The XF205 will retail in the United States for \$4,400 and the XF200 for \$3,900. Both will be available in mid-July.

Aditech Mangrove Housing for Sony AX100

Aditech has announced the release of its new Mangrove housing for the Sony FDR-AX100 and HDR-CX900 4K cameras. The design of MVHS-AX100 housing incorporates 12 electromagnetic push buttons to control the camera via LANC. The housing also includes a rear mounted 3.5-inch High-Resolution TFT LCD monitor or an optional 3.5-inch AUO 16:9 ultra-high resolution monitor.



Nauticam NA-A5000 Housing

Nauticam has announced details and release dates for its new housing for the Sony A5000 mirrorless camera. The NA-A5000 housing features access to the A5000's power zoom lever, which allows the lens to be zoomed without the usual lens rings. The new housing also includes the port lock lever system first seen on the recent Nauticam E-M1 housing, plus a built-in vacuum leak detection system. The NA-A5000 will ship from May 1 at a U.S. retail price of \$1,350.



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Nikon V3 Mirrorless Camera

Nikon has released the latest iteration in its "1" line of mirrorless cameras—the V3. The camera has a 18.4-megapixel CX-format image sensor, a new EXPEED 4A image processor, 1080/60p Full HD video capabilities and can shoot at 20fps. Its ISO is 160-12,800 with high ISO noise reduction and Nikon will bundle an electronic viewfinder with the camera. The Nikon 1 V3 is available now at a bundled price of US\$1200 for the camera body, 10-30mm VR zoom lens, DF-N1000 electronic viewfinder and GR-N1010 grip.



Ikelite EOS 100D/SL1 Housing

Ikelite has announced its new housing for the diminutive Canon EOS 100D/Rebel SL1 camera. The housing is small and compact to reflect the essential design concept of the EOS100D/SL1 and features Ikelite's signature TTL flash triggering. Ikelite is releasing the new housing with an optical grade acrylic dome port and zoom ring as standard, which allows both the Canon EF-S 18-55mm STM kit lens and the popular Tokina 10-17mm lens to be used—although there is some slight vignetting in the 10-12mm range with the Tokina.



DeepPro GoPro housing

DeepPro has announced that it will be releasing a new housing for GoPro HERO 3 and 3+ cameras. The GPH3 housing is manufactured from aluminum and features a dome port that is claimed to increase the GoPro's field of view underwater to the same as it is on the surface. DeepPro also claims that the dome port means that there is no vignetting even when the GoPro is used in Superwide mode, plus the dome also reduces the minimum focus distance to six inches. The GPH3 housing is fitted with a bulkhead that will allow the use of an external monitor or recorder. No dates are currently available for when the DeepPro GPH3 housing will be available, but pre-orders are being accepted at an eventual retail price of US\$1,295.



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SEACAM Underwater Photo Academy

Online Seminars for Underwater Photographers



SEACAM founder and CEO, Harald Hordosch, in SEACAM Underwater Photo Academy video



Kurt Amsler in online seminar for SEACAM Underwater Photo Academy

Text by Kurt Amsler, edited by Gunild Symes. Photos courtesy of SEACAM

SEACAM has just unveiled a series of online seminars in their new Underwater Photo Academy. Now you can learn about underwater photography from a professional underwater photographer via video on the Internet. Renown Swiss photographer, Kurt Amsler, conducts the online seminars sharing his tips, tricks and secrets.

These so-called "cyber lessons" have been available for years in other sectors such as the sports or music industries, for example. In the diving and photography scene, however, this kind of dissemination of knowledge is absolutely new. There is nothing available at the moment comparable to the SEACAM Underwater Photo Academy.

There are currently nine complete courses available, which were produced in a professional studio, in both German

and English. The courses offered are designed for all underwater photographers who have basic knowledge and experience. The explained and demonstrated techniques are not meant for exclusive use with SEACAM equipment, but can be practiced with all major brands of photo equipment.

Professional instructor

Thanks to more than 25 years of teaching photography, Kurt Amsler knows exactly what techniques photographers have the most problems with. His lessons are specifically aimed at addressing these techniques, including flash and mixed lighting

techniques, wide-angle and fisheye photography, super-macro, wreck and model shots, just to mention a few. The lessons take over an hour and include a lecture, demonstrations, photographs and graphics.

These "webinars" can easily replace the "classic" photography course. The explained and demonstrated techniques are so simple and logical that they can

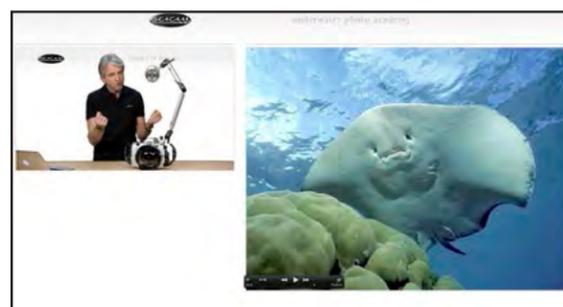
immediately be practiced by the photographer independently underwater. With sample images included in all the lessons, customers can also compare their work with that of a professional.

The lessons are provided in streaming video, easily downloaded, to make viewing as convenient as possible. An added bonus is that it is also possible to download these workshops onto smartphones and tablets, so you can take them along wherever you go.

Payment for the online courses can be made with credit card or PayPal. The online SEACAM store has everything fully automated for this purpose.

The webinars include lessons of different lengths on various topics, and the prices range between €80-140 (US\$111-193) per webinar. Customers can purchase individual courses, but if you buy the whole series at once, the price is cheaper. For each course purchased, the customer will receive, as a bonus, the 50-minute course, *The Right Equipment*, for free.

The following link takes you to the FREE download of the lesson, *The Right Equipment*, and a look at all the trailers at: www.seacam-store.com/en/academy. □



Various views from online seminars offered by SEACAM Underwater Photo Academy



An Overview of Photo Editing Software

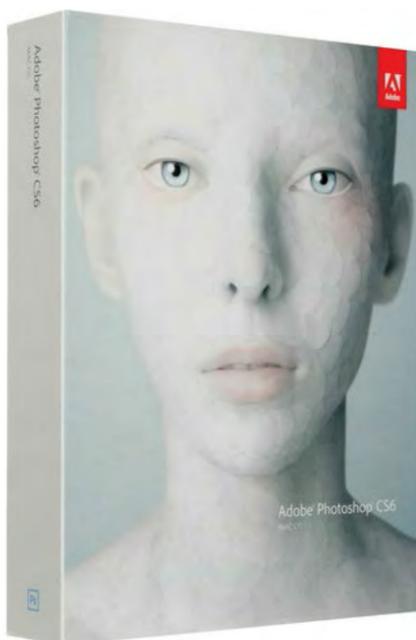
Text by Matthew Meier. Product images courtesy of the manufacturers

Creating photos in this digital age requires postproduction computer work to get the most out of your images. In days of old, post processing meant time in the darkroom developing film and then perhaps hours spent massaging the final print under an enlarger. The techniques may have changed but the concept is the same. The real question is where do you start?

There are many options on the market that vary from easy to complicated, expensive to free of charge, and your choice will depend on your level of expertise and/or expectation. This article is by no means meant to be a definitive glossary of photo editing software but more of an overview of several of the top players at various levels on the spectrum.

Adobe Photoshop

For a large majority of professionals in the photo world, Adobe Photoshop is the image software of choice. It works with both PCs and Macs and is currently available as a stand-alone or cloud-based application. Though it appears as though the future will be limited to a subscription based in the cloud.



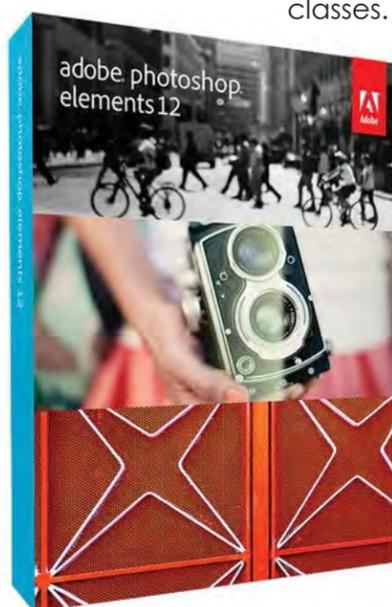
Currently, Photoshop is available at US\$9.99 per month for subscribers and a one-time cost of \$649 for the previous CS6 stand-alone version.

As the most expensive option on the market, it stands to reason, that this is also the most feature rich and powerful image editing tool out there. The software allows for global

and localized adjustments, innumerable effects, layering, and the ability to process RAW files, plus the organization of photos through Bridge.

Photoshop is also complex, requiring ample time and effort to master. There

are incredible resources at your disposal for that knowledge gathering, including online tutorials, forums, books and classes. However, this learning curve and/or price tag may not be suitable for everyone. www.adobe.com/products/photoshop.html



Photoshop Elements

At a more reasonable price of \$99.99, Adobe Photoshop Elements is a simpler version of the flagship model. The software contains similar features, though less in number and also works

on Macs and PCs. It offers global and localized adjustments, the ability to process RAW files, sharing to social media sites and is easier to use.

Numerous video tutorials and online forums help with the learning curve, but there is still effort involved in mastering this application. To help they have added several one-

step enhancement shortcuts, which are aimed at helping the less-experienced user obtain desired results more quickly. www.adobe.com/products/photoshop-elements.html

Corel Paint Shop Pro

In a similar vane, Corel's Paintshop Pro will run you around \$79.99 but only works on Windows-based PC's. It offers RAW, HDR and plug-in support with 64-bit performance. The software has a wide array of editing tools including layers, brushes, quick selection and vector tools. Like Elements, Paintshop Pro has a shortcut feature they call Smart Photo Fixes, which are suggested corrections that may be accepted and/or fine-tuned.



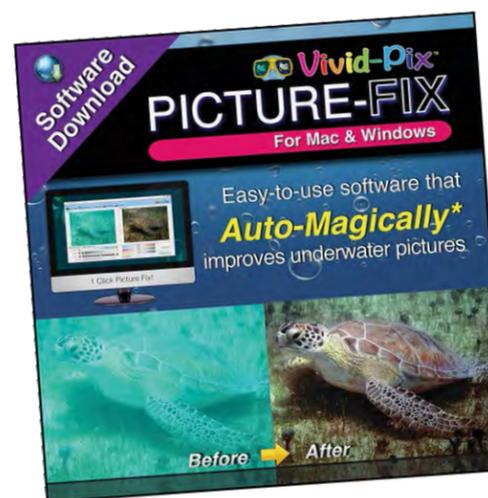
Video learning is also available for assistance along the way. www.paintshoppro.com

VividPix Picture-Fix

One of the newest options on the market is designed specifically for amateur underwater photographers. Vivid-Pix's Picture-Fix software works on both Mac's and PC's and costs \$49.99 for

the online download. While Picture-Fix will work on topside photographs, its strength lies in improving the exposure, contrast and color of underwater images. The software is incredibly easy to use and upon import, offers a nine-window preview of possible corrections to the original photo. Once selected, the improved photo may be further fine-tuned by adjusting a handful of sliders,

in a side by side display with the original image. At this time, there are no localized adjustments, layering, metadata or text overlay available, and the software only supports the processing of JPG files. All edits are non-destructive, and the final adjusted photo is saved as a new file, leaving the original untouched. New features, just released, allow control of sharpness and crop, and the website contains a video and FAQ section with the full overview of the software. While a bit limited in scope by comparison to the other options listed here, Vivid-Pix is a great tool for the budding underwater photographer looking to improve the look of their pictures. www.vivid-pix.com





Google Picasa

There are several free image editing software on the market, and one of the easier to use is Google Picasa. It works on Windows, Mac and Linux systems but currently offers no iCloud support. Picasa does support RAW images and has an array of photo effects, plus features like geo and name tagging along with facial recognition. The software is intuitive, has good organization tools and offers side by side editing to compare changes made from the original file. Picasa contains an extensive online help system and is designed for easy sharing of photos on Google+ and social networks. picasa.google.com

Gimp

Another free option with near Photoshop-like image editing capabilities is called Gimp. It also works on Windows, Mac and Linux systems but is considerably more complicated to use than Picasa. Gimp supports RAW images, plus layering and plug ins. It offers a vast array of photo effects but in a less intuitive and cramped interface. There are tutorials on the Gimp website and online forums to reference for questions. For capabilities resembling Photoshop, at none of the cost, this software may be worth the learning curve and inherent quirks. www.gimp.org

Photo Mechanic

Another major player at the profes-



sional level is software called Photo Mechanic. It works on Macs and PCs but does not process RAW files or even edit photographs. Photo Mechanic is a fast import, preview, selection, organization and metadata tool. It

offers direct upload to standard services and exports to other applications for editing. The software uses unconventional terminology, so there is a bit of a learning curve to using it, however, many pros consider Photo Mechanic invaluable for the speed at which it helps them

sort through mountains of images after returning from a job. The current price online is \$150. www.camera-bits.com/products

Apple Aperture

Last but not least on the list are two programs that not only aid in image editing, but also do a masterful job of keeping track of your photo library. The first is Apple Aperture, which is a Mac only software that is listed at \$79.99. It offers local and global adjustments, support of RAW files, numerous effects and multimedia sharing, while being fully integrated with Apple's iPhoto. Aperture automatically shares photos



on the web through Photo Stream and furthermore allows for the creation of photo books. Like Photo Mechanic, some of the terminology used is a bit different, but there are many online tutorials and forums to aid in the educational process.

As in most of these programs, images must first be imported into Aperture before use, and they are then stored according to folders. Unfortunately, that filing structure itself is hidden from the user, and in my opinion, is one of the pitfalls of this system when trying to retrieve images. It is not possible to look on the hard drive for a folder of images, so the only way to access them is through Aperture. That being said, this program offers a great many more features than most others in this price range and should not be dismissed. www.apple.com/aperture

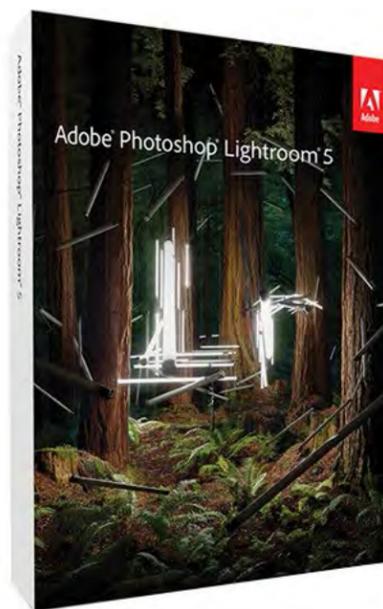
Photoshop Lightroom

The final software offering is Adobe Photoshop Lightroom. It is currently obtainable as a stand-alone application for \$149 and in conjunction with Photoshop as a subscription from the cloud. Lightroom runs on both Macs and PCs and will process RAW files. In fact, it

uses the same RAW processing engine as Photoshop and is fully integrated for advanced editing techniques as well. All adjustments are non-destructive and include both global and local changes.

The vast majority of Photoshop tools necessary for image enhancements are available in Lightroom, save layers and some specific localized adjustments. In fact, many photographers use Lightroom for most of their image corrections and edit in Photoshop only when necessary.

Additionally, Lightroom keeps track of all of your images, regardless of whether or not they are on your computer or external hard drive. It has an excellent printing interface, creates slideshows, exports to the web and also allows for book creation through Blurb.



This is an incredibly versatile tool, but its immense array of features certainly requires time and energy to understand. Lightroom has an extensive built-in help system, plus a plethora of online tutorials, forums, books and classes to assist in that process. www.adobe.com/products/photoshop-lightroom.html

Editor Matthew Meier is a professional underwater, nature and travel photographer living in San Diego, California, USA. For more information, visit: www.matthew-meierphoto.com



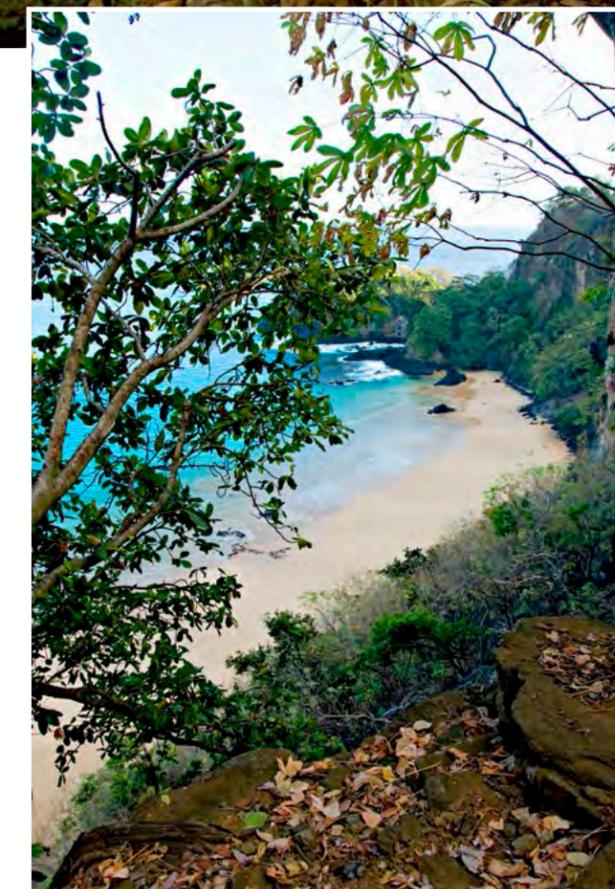
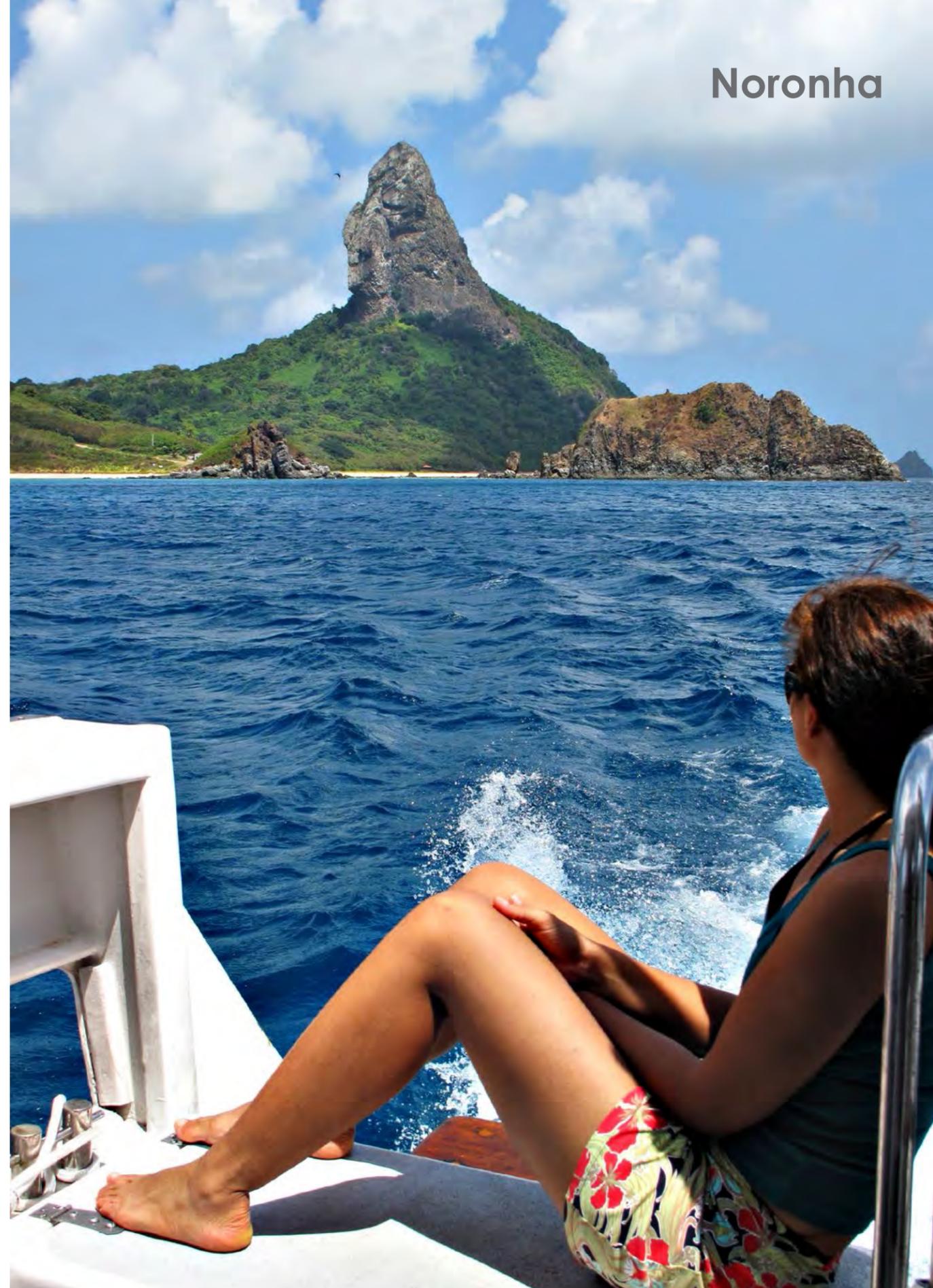
Gimp running on Linux system



Brazil's
Fernando de Noronha

Text and photos by Michel Braunstien

Jewel of Nature



Employees counting dolphins (left side of photo) at Baia dos Golfinhos

If I were to tell you about a special place where no one locks their doors at night, where crime is virtually nonexistent, where the number of tourists is intentionally restricted to preserve the ecological balance, and where each visitor must pay a daily fee of 15 Euros (approximately US\$20) to protect the environment, would you think about Brazil? Probably not!

Yet, Brazil's tiny archipelago of Fernando de Noronha still resists the changes and other influences from the continent. The archipelago entails

21 volcanic islands and is located at 360km (224mi) from the closest coast of Brazil (Natal). Spreading over a total area of 26 sq km, it is located in the Atlantic Ocean near the Equator (3° 51' S, 32° 25' W). The main island, the only one which is inhabited, is about 10km long (6m) and up to 3km wide (1.8mi). The archipelago gained international media attention after the terrible accident on 1 June 2009 of Air France Flight 447 flying from Rio to Paris, as searches were conducted by the Brazilian Air Force from the archipelago.'

History

Discovered in 1503 by the Portuguese, the archipelago was named after Fernao de Loronha who received it as a gift in 1504 from his friend, King Manoel I of Portugal. However, Loronha quickly forgot this gift and

The fabulous Baia do Sancho

View of Morro do Pico from dive boat. PREVIOUS PAGE: Splendid arch underwater at Pedras Secas



LEFT TO RIGHT: Fernando de Noronha's church; Atlantis dive club fleet; Location where prisoners were punished in colonial times; Buggies are the ultimate vehicles on Noronha

the U.S. forces as a military base during World War II and again in the late 50s and early 60s during the cold war against Soviet Union. Since 1988, the islands have been open to tourism, 85 percent of which being of Brazilian origin. Over two thirds of the archipelago's total land surface is a marine national park, classified since 2002 as part of the UNESCO world heritage.

Hotels and transportation

There are no hotels on this preserved site but there are living units, or *pousadas*, in private homes. Infrastructure is very basic. A single seven-kilometer paved road crosses the inhabited island. Buggies are commonly used as a means of

transportation and allow driving outside the main axis.

Nature and conservation

The site's nature conservation is exceptional; it has a rich and varied flora and fauna. Non-governmental protection agencies for the study of various species are quite active on the island and entail projects such as the Projeto Golfinho Rotador for the dolphins, the Tamar Project for the turtles, and other projects pertaining to the study of sharks, birds and crustaceans.

Some environmental mistakes made long ago by the Portuguese can still be noticed today. For example, two different lizard species were introduced to eat rats but preferred eggs, chicks and turtles that have just hatched; unfortunately, it is now too late to reverse the process.

Beaches

At sunset, whilst visiting Baia dos porcos, you can admire, the Dois Irmaos, the two renowned tiny sister islands. Morro do Pico, an impressive peak rock, is another one of the local spots.

The main island is surrounded by 16 heavenly beaches that are clean and almost deserted, making it almost impossible not to stop and have a look.

Baia do Sancho is without a doubt the most sumptuous beach and is rated first in the Brazilian beach ratings. The water is crystal clear and the shoreline is bordered by dense vegetation. This is an ideal place for snorkeling. You can often see stingrays, turtles, as well as other species.

Nevertheless, access to the beach



is rather difficult, involving a hike down a steep cliff, 50 meters (164 feet) high, if you wish to swim. Two ladders allow crossing of a narrow opening between the rocks, followed by a large flight of stairs that leads to the beach. This is not easy, but it is well worth the effort for both the experience and the view.



Diver passes through a narrow passageway on the way to Caverna de Sapata

Dolphins' Bay

Baia dos Golfinhos—the Bay of Dolphins—is near Sancho Bay. A large number of spinner dolphins (*Stenella longirostris*) swim together here every morning at dawn. They come to the bay to seek shelter after a night of hunting before returning to their marine odyssey.

These spinner dolphins, commonly named *golfinho rotadores* in Portuguese, are known for their spectacular jumps. They can perform up to seven spins during the same jump. An impressive amount of them can be seen from the observatory at the top of the cliff, some 50 meters above the sea.

Every morning, the employees of the Projeto Golfinho Rotador organization count the dolphins to monitor their progress. Daily, on average, 315 dolphins reach the bay to breed, care for their young, or seek shelter from shark attacks. At times, one can even count up 2,000

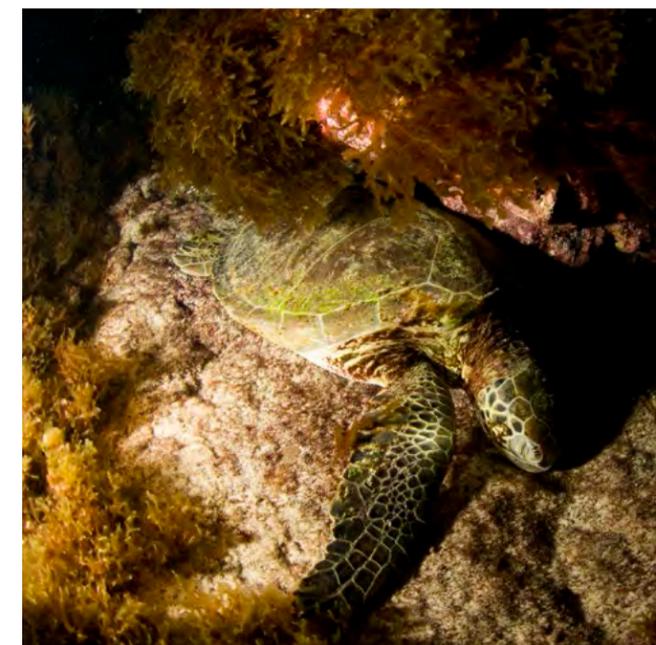
dolphins. Noronha has the largest spinner dolphin count and population density in the world, in a single place.

Turtles beach

Baia do Sueste is at the other end of the island and sea turtles come there to lay their eggs between December and June. Nests are protected by the Tamar Project patrol (Projeto Tamar). You can see turtles here throughout the year if you swim beyond the bay's surf, equipped with a mask, snorkel and fins.

Diving

All year round in Noronha, you can have great quality dives, thought to be some of the most magnificent of the South American continent. The water has a pleasant average temperature of 26°C. The visibility is outstanding, ranging from 25 to 45 meters. During the months of September and October, the visibility



is at its best. Although you won't find coral or macro life here as it exists in the Indian Ocean, the underwater world of Noronha is mainly interesting for its volcanic rock formations, narrow

Diver in narrow passageway; Turtle (right) asleep during night dive, Perdras Secas



passageways, tunnels and caves, making it a very special place. Marine species are generally very large and quite numerous. It is not uncommon to encounter dolphins underwater, and if you miss them there, you can often see them swimming alongside boats.

Sapata Cave

The magnificent Sapata Cave has a very wide entrance with which a little imagination makes you think of a mouth. A large grouper lives within the entrance, and although it still appears to be quite young, it already weighs over a hundred kilograms (220 pounds).

Fauna

During each dive, large stingrays are visible. Barrel sponges are very common. Reef sharks and nurse sharks can be met mainly in the superb reef of Pedras Secas. Sometimes, during a night dive,

you can even come across a turtle sleeping under a rock. There are many schools of fish, and on occasion, you can see manta rays and hammerhead sharks.

Wrecks

The Corvette Ipiranga V17 wreck is that of a Brazilian Navy warship that sank in 1982, after hitting a rock that did not appear on any map. She drifted and sank during an eight-hour stretch, reaching the seabed at 62 meters deep (203 feet) in perfectly straight position. She remains in excellent condition.

Diving into the wreck requires trimix, which can be relatively expensive, and requires very accurate preliminary training. On the wreck's deck, there is still a heavy machine gun.

In Noronha's port, there is another wreck which is accessible by snorkeling as it is only about six meters deep (20

Large barrel sponge (above); Stingray at 42m depth (top left); Diver between huge lava rocks (left)



Huge lava rocks underwater (above); Diver in splendid entrance to Sapata Cave (top left); Divers in swim-through (left); Giant grouper, Sapata Cave (right)

sized planes landing there every day. This place has a unique charm as a result of all these factors, making it a true jewel of nature and a true delight to the eyes.

Dive clubs and tourism info

There are only three dive clubs in the small archipelago. The nicest and most professional one, with the best ships, is Atlantis Divers owned by

because locals do not speak English. You can also get in touch with Adriana Schmidt from Your Way travel agency in Noronha. She's a great guide and perfectly fluent in English. She can help you with any kind of reservation on the island. Email her at: adriana@yourway.com.br.

Michel Braunstein is a Belgian underwater photographer and dive writer based in Israel. For more information, visit: www.michelbraunstein.com

feet). These are the partial remains of a Greek ship named *Eleana Stathatos* that sank in 1929.

Fernando de Noronha is a model

of environmental preservation. The tourist industry remains limited due to the small infrastructure and means of access; there are only two medium

Patrick Muller. The two others are Noronha Divers and Aguas Claras. If you don't speak Portuguese, take a dictionary with you to Noronha,

SOURCES: ¹ EN.WIKIPEDIA.ORG/WIKI/AIR_FRANCE_FLIGHT_447



fact file



Brazil



SOURCES: U.S. CIA WORLD FACTBOOK, RAF.MOD.UK, WIKIPEDIA, WWWNC.CDC.GOV

History After over 300 years of Portuguese rule, Brazil gained its independence in 1822. It maintained a monarchical system of government until 1888 when slavery was abolished and the military subsequently proclaimed the country a republic in 1889. Exporters of Brazilian coffee dominated politics in the country until 1930 when populist leader Getulio Vargas rose to power. Over five decades of populist and military government passed before power was finally peacefully ceded to civilian rulers in 1985. Brazil, being the largest and most populous country in South America, continues to pursue growth in the industrial and agricultural sectors while developing its interior, exploiting its vast natural resources and a large labor pool. Today, it is South America's leading economic power. As a regional leader, Brazil is one of the first in the area to begin economic recovery. However, there is still large inequality in income distribution in the country, and crime remains a pressing issue. Government: Federal republic. Capital: Brasilia.

Geography Brazil is located in Eastern South America and borders the Atlantic Ocean. As the largest country in South America, Brazil shares common boundaries with every South American coun-

try, with the exception of Ecuador and Chile. Coastline: 7,491km. Terrain consists primarily of flat to undulating lowlands in the north, with a few plains, hills and mountains, as well as a belt of narrow coast. Lowest point: Atlantic Ocean 0m. Highest point: Pico da Neblina 2,994m.

Climate Primarily tropical, Brazil does have temperate climate in the south. Natural hazards include floods and sometimes frost in the south as well as periodical droughts in the northeast.

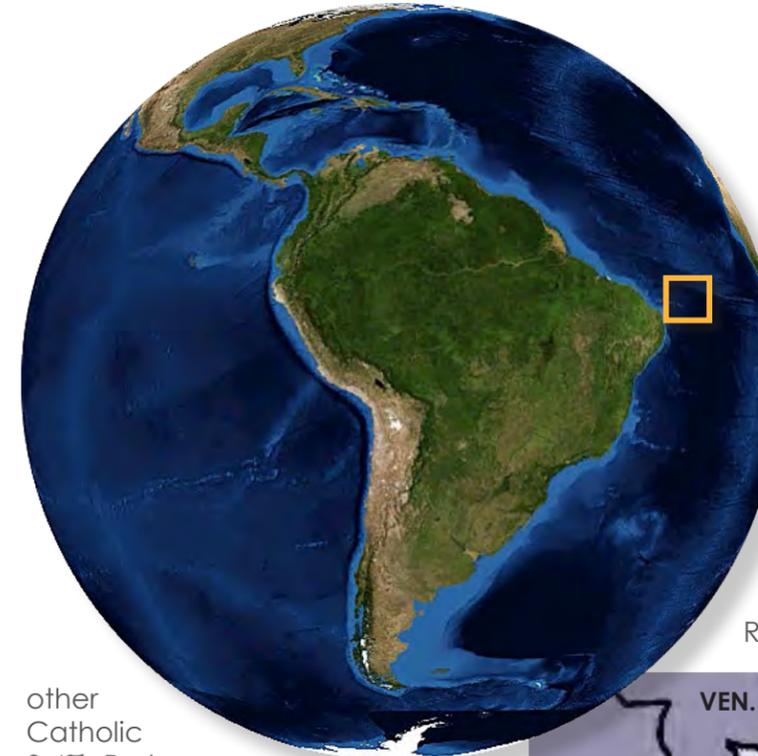
Environmental issues Deforestation in the Amazon Basin is destroying habitat and endangering a myriad of indigenous animal and plant species. A lucrative illegal wildlife trade is also having an adverse effect on indigenous species. Rio de Janeiro, Sao Paulo, and other large cities are plagued with air and water pollution. Improper mining activities is causing land degradation and water pollution. Other challenges include wetland degradation as well as devastating oil spills.

Economy With vast and well-developed agricultural, manufacturing, mining and service sectors, Brazil has the largest economy of all the South American countries. Expanding its presence in

world markets, Brazil has, since 2003, improved its macroeconomic stability. Economic measures have seen the country's foreign reserves rise and its debt profile fall. Strong growth prior to the 2008 global financial crisis was followed by two quarters of recession but then the country was one of the first emerging markets to begin a recovery. Growth increased leading to rising inflation in 2010, so the government took measures to slow the economy in the following years. Unemployment is at an all time low while the gap in income inequality has steadily decreased. High interest rates attract foreign investors, but the large inflow of capital in recent years has hurt manufacturing, so government intervention in foreign exchange and taxation was necessary. The current administration is committed to fiscal restraint, combatting inflation and maintaining a floating exchange rate.

Currency Reals (BRL)
Exchange rates: 1EUR=3.05BRL;
1USD= 2.21BRL; 1GBP=3.70BRL;
1AUD= 2.08BRL; 1SGD= 1.78BRL

Population 202,656,788 (July 2014 est.) Ethnic groups: white 47.7%, mulatto (white and black mix) 43.1%, black 7.6%, Asian 1.1%, indigenous 0.4% (2010 est.) Religions: Roman Catholic 64.6%,



RIGHT: Global map with location of Noronha. LOWER RIGHT: Location of Noronha on map of Brazil

other Catholic 0.4%, Protestant 22.2%, other Christian 0.7%, Spiritist 2.2%, other religions 1.4% (2010 est.) Internet users: 75.982 million (2009)

Language Portuguese is the official language and most widely spoken. Other, less common languages include Spanish, German, Italian, Japanese, English, and several Amerindian languages

Health There is a risk of hepatitis A and typhoid through food and water contamination; dengue, leishmaniasis and Chagas disease from bug bites; as well as malaria, rabies and yellow fever in some remote areas. Check with your doctor 4-6 weeks before your trip for details and updates on vaccination requirements and health risks. For helpful tips for travelers to Brazil, visit <http://wwwnc.cdc.gov/travel/destinations/traveler/none/brazil>

Decompression chamber Fernando de Noronha is remote. There are several chambers in private and military hospital facilities in Brazil's larger cities of Sao

Paulo and Rio de Janeiro as well as naval facilities along the coast, but the closest facility is around 545m (338mi) away in Recife, so please

Hospital UNIAD
Rua Pacifica dos Santos#71
- Bairro Pais
Recife, PE Brazil 52010-030
Phone: +55 81 3423-4431

Travel/Visa/Security
Travellers from North America, most of Africa, Middle East, Asia and Australia are required to



check with your dive operator for more details.

Hospital Sao Marcos
Rua Domingos Ferreira,
63 Sala 317 - Pina
Recife, PE Brazil 51011-050
24-Hour Phone: +55 81 3465-9126

apply for tourist visas from their local Brazilian embassy for tourist travel to Brazil. Tourist visas are valid for up to 90 days.

Web sites
Brazil Tourism
www.visitbrasil.com



Erika Pochybova-Johnson



P O R T F O L I O



Red Reef, by Erika Pochybova-Johnson. Acrylic on canvas, 34 x 24 inches



A Shrimp, 8.5 x 11 inches (above) and Aftermath, 44 x 68 inches (previous page) acrylic on canvas by Erika Pochybova-Johnson

Originally from Slavakia, self-taught artist Erika Pochybova-Johnson creates brilliant, spell-binding, intricate paintings inspired by nature, the sea and its creatures. Now based in Lubbock, Texas, the artist shared with X-RAY MAG her artistic vision and connection to the underwater world.

X-RAY MAG: Tell us about your background, your roots and how you became an artist.

EPJ: I grew up in Bojnice, which is an old city [in Slovakia] known for its tourist attractions, such as one of the most visited castles in Europe (first mentioned in 1113), the oldest zoo in Slovakia and one of the oldest spa resorts in Slovakia. The house in which I grew up is located right by

the Bojnice Castle (a five-minute walk from our house) and touring the castle and its exhibits (including numerous traveling art shows of European art) was one of the most pleasant and interesting activities I did throughout my youth. In addition, both of my parents are big appreciators of European art (in any form) and we took many trips throughout the country to visit many historical areas that contain amazing collections of art.



portfolio

Pochybova-Johnson

In addition, the town lies in the Nitra River valley and is surrounded by beautiful mountains. Often, we would take hiking trips, mushroom-hunting trips, or just simply trips into woods and explore the wonders of the surrounding nature. I believe these experiences have not only established my strong appreciation for art, beauty and nature but also have influenced my work and my vision of the world considerably.

X-RAY MAG: What is your artistic mission or vision?

EPJ: The arts, in general, are a means of sharing the human experience. The visual arts, in particular, imbue an object, such as a painting or sculpture, with a wordless language of thought, emotion and visual experience. The object is static, but it can bridge the gaps of space and time. The artist's vision can trigger a feeling of recogni-

tion in the viewer or present a new way of looking at a familiar thing. It is like a conversation without words between two people who have never met. This simple yet magical quality is what has drawn me to making art. For me, making art is about adding some beauty to the world. Whether it is beauty in truth, beauty in nature or beauty in and of itself, art objects have contributed to the quality of human life for centuries.

X-RAY MAG: What about the sea and its creatures inspires you?

EPJ: As a visual artist, the colors, shapes and lines of sea animals and plants are especially interesting because they are so different from what we normally see as surface creatures. I love the variety in their colors, the refracted light of the underwater world, and how their forms move



Gliding, by Erika Pochybova-Johnson. Acrylic on canvas, 24 x 34 inches



Undulating, by Erika Pochybova-Johnson. Acrylic on canvas, 24 x 34 inches



Black Sea, by Erika Pochybova-Johnson. Acrylic on canvas, 23 x 16 inches (left)

with expressive gestures in seemingly zero gravity. To me, it all combines to create a magical new dimension of life on Earth that is not appreciated often enough. The sea and its creatures inspire me with awe.

X-RAY MAG: Tell us about your experience in the underwater world, scuba diving or snorkeling. How and why did you start diving?

EPJ: I have always loved water. I almost drowned when I was a toddler, and after that, I spent countless hours in the water, learning to swim and swimming. When I was 15, I signed up for a scuba diving course. This brought a completely new dimension to my already developed love for water and swimming.

X-RAY MAG: What are your favorite dive sites, underwater subjects, locations?





Octopus' Garden, by Erika Pochybova-Johnson. Acrylic on canvas, 16 x 21 inches

EJP: I don't really get to dive much anymore since I live in a very dry part of the world. But my favorite place that I have been recently was on the northwest coast of Costa Rica. In the water, I just love to see anything with color.

X-RAY MAG: Tell us about your paintings... How are they made?

EJP: I think that the fact that I am a self-taught artist contributes considerably to my unique vision and the consequent uniqueness of my work. Because I am not aca-

demically trained in painting, I do not think of predefined rules, and I do not find any need to follow them—I do not even want to know what those rules are. I invented my unique painting style intuitively. My images are created with thousands of dots that I carefully place, one by one by, on the sur-



Jellyfish, by Erika Pochybova-Johnson. Acrylic on canvas, 24 x 14 inches



Red Lobster, by Erika Pochybova-Johnson. Acrylic on canvas, 16 x 20 inches

face of my paintings. I like to improvise when I work; I choose colors in my work intuitively, and often, I do not know what the final image is going to look like. I love moments of surprise in my work. I do not look at my pieces from a distance to evaluate them until they are more than 80 percent done, and that, for me, makes the entire process even more fun and interesting. I like to express what I see in a way that seems very natural to me, and perhaps this contributes to the uniqueness of my style and imagery.

X-RAY MAG: Do you use underwater photography—your own or other sources?

EPJ: I do not paint from photographs, per se. I look at many images and create my own composition from various source materials and my imagination. I do not want to copy an image that I have already taken or seen, but rather create something that has never been seen. My paintings represent an imaginary world that is influenced by real life experiences, encounters, and are recollections of my memo-

ries or visions. And painting is a wonderful medium for enticing people into looking at something in a new way.

X-RAY MAG: How does your art relate to conservation or environmental issues facing our oceans and reefs?

EPJ: One powerful element, to which people respond, is beauty. There is nothing quite like beauty, and people pay attention when they see something beautiful. My goal is to bring awareness about

Pochybova-Johnson

Small Jellyfish, by Erika Pochybova-Johnson. Acrylic on canvas, 11 x 8.5 inches

Strolling, by Erika Pochybova-Johnson. Acrylic on canvas, 16 x 23 inches (below)



the beauty that is present in nature and the plants and animals of the underwater world—and how fragile it is.

One example: It has been almost 37 months since the Tohoku earthquake triggered a tsunami that devastated eastern Japan and severely damaged the nuclear reactors in Fukushima. This tragic event, that resulted in a continuous leak of harmful radioactivity, was the inspiration for my painting, *Aftermath*. At first glance, one feels the positive energy, a glorious underwater world, teeming with seemingly playful life. But upon further observation, one may wonder about a strangely out of place Japanese motorcycle. The sea creatures appear disturbed





Aftermath #2, by Erika Pochybova-Johnson
Acrylic on canvas,
24 x 36 inches

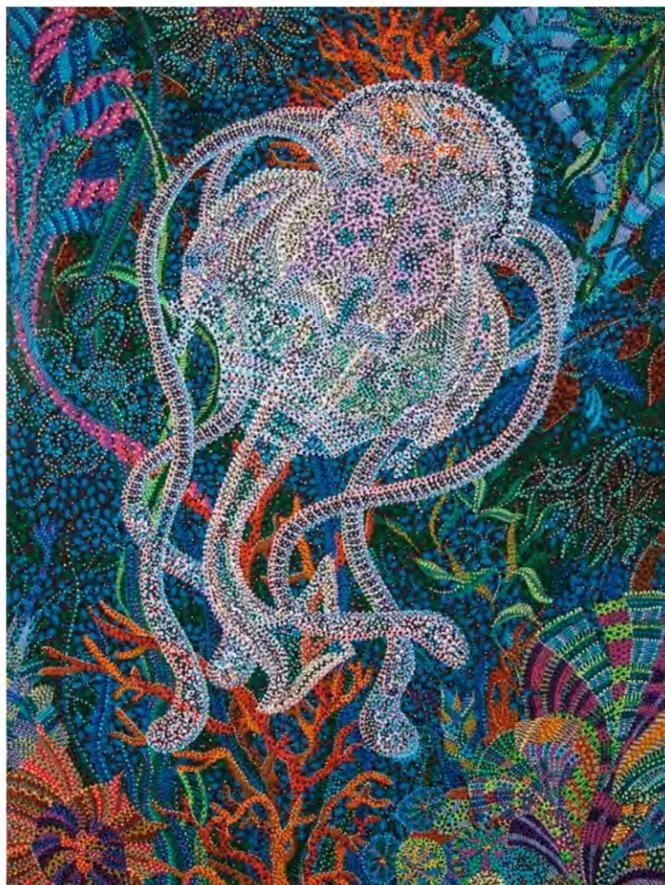
X-RAY MAG: Why art? Why is art important? What are the challenges and benefits of being an artist today?

EPJ: I enjoy making art because it makes me feel like I am contributing something positive to the world. Looking at other people's art, past and present, has enriched my life, and I want to contribute a little something to the giant fabric of human culture. There are some challenges with being an artist but the rewards, both personal and professional, far outweigh them. And to me, true artistic success is having the peace, time and resources that allow one to make art for most of the time one spends on Earth.



Jellyfish #2, by Erika Pochybova-Johnson.
Acrylic on canvas,
27 x 19 inches

and anxious about this unnatural intrusion. Barely visible, like radioactivity, in the chaos are arrangements of particles that form floating radioactive symbols and the logo of Tepco. (Tepco is the electric power company that was responsible for maintaining the nuclear reactors.) When one takes the time to really see and contemplate the painting, it reveals a more complex world where all is not well. *Aftermath* is, at once, a tribute to some of the miraculous life our planet has produced and a warning about the fragility of that life—an apology to Nature.



X-RAY MAG: What's next? New? Upcoming?

EPJ: My goal is to continue striving to bring more beauty to the world with my paintings... and perhaps raise the awareness about the fragility of nature. I want to pay tribute to nature's purity and hope that our civilization will learn to live in harmony with that. I also would like to learn to see the world through the eyes of animals, whose spirits are pure, and discover some universal truths that would help us humans get along in the world. I continue to have some hope. □

For more information and to purchase art work or prints, visit: www.ebova.com or www.erika-pochybovajohnson.artistwebsites.com/index.html.

Aquatic Apparition, by Erika Pochybova-Johnson.
Acrylic on canvas, 32 x 24 inches



Curious, by Erika Pochybova-Johnson
Acrylic on canvas, 10 x 8 inches