

FECH E



Text and photos by John A. Ares, Sheryl Checkman, Larry Cohen, Anita George-Ares, Kate Jonker, Matthew Meier, Brandi Mueller, Gary Rose and Olga Torrey

We asked our contributors to share their favorite underwater images showing variations on the theme of "Opposites," and they came back with a diverse range of color and black-and-white photos featuring marine life from large whales to tiny nudibranchs and fellow divers on reefs and wrecks. in caverns and cenotes as well as open waters. Here, X-Ray Mag contributors share their favorite images from the tropical waters of French Polynesia, Micronesia, the Philippines, Indonesia, Malaysia, the Maldives, Bonaire, the Bahamas, Turks & Caicos, the Cayman Islands, Mexico and Honduras, to the temperate waters of Newfoundland and the US East Coast.





Photo 1. Moray eels, Maldives (previous page). Gear: Canon EOS Rebel SL1 camera, Canon EF-S 18-55mm f/3.5-5.6 IS STM lens (at 26mm), Ikelite housing, two Ikelite DS161 strobes, Exposure: ISO 200, f/8, 1/160s; Photo 2, Crescent-tail bigeyes, Maldives (above). Gear: Canon EOS Rebel SL1 camera, Canon EF-S 18-55mm f/3.5-5.6 IS STM lens (at 26mm), Ikelite housing, two Ikelite DS161 strobes Exposure: ISO 200, f/8, 1/160s

Facings, Phases, Color and Camouflage

Text and photos by Anita George-Ares, PhD

In Photo 1 (previous page), a large, undulated moray faces the opposite direction of the smaller, white-eye moray. Moray eels are abundant at the Fish Factory dive site in the Maldives. The daily dumping of processed fish waste ensures an abundance of marine life.

A school of crescent-tail bigeyes (Photo 2) also inhabits the Fish Factory site. The bright red phase of some fish is the opposite of the pale, silvery phase displayed by the other fish in the school.

Photo 3 shows two sleek unicornfish. This species exhibits a variety of color patterns that can quickly change. The colors are not genderspecific. The bottom fish displays opposing light and dark colors.

Male flamboyant cuttlefish are typically smaller than the females. The cuttlefish depicted in Photo 4 are of similar size, but the female on the right differs by being camouflaged and flattened (Hanlon and McManus, 2020). The boldcolored males (left and center) display three pairs of arms whereas the female does not. Visit: facebook.com/profile.php?id=100016947967639

REFERENCE:

HANLON, R. T. AND G. MCMANUS. (2020). FLAMBOYANT CUT-TLEFISH BEHAVIOR: CAMOUFLAGE TACTICS AND COMPLEX COLORFUL REPRODUCTIVE BEHAVIOR ASSESSED DURING FIELD STUDIES AT LEMBEH STRAIT, INDONESIA. JOURNAL OF EXPERIMENTAL MARINE BIOLOGY AND ECOLOGY 529. HTTPS://DOI.ORG/10.1016/J.JEMBE.2020.151397







Photo 2. Spadefish and cleaner wrasse, Dumaguete, Philippines (above). Gear: Canon Rebel SL1 camera, Canon 100mm f/2.8 USM macro lens, Ikelite housing, twin Ikelite DS-161 strobes. Exposure: ISO 400, f/11, 1/200s

Photo 1. Humpback whale mother and calf, Moorea, French Polynesia (above). Gear: Canon Rebel SL1 camera, Sigma 11-18mm lens (at 10mm), Ikelite housing, available light. Exposure: ISO 3200, f/14, 1/320s

Size, Facing and Direction

Text and photos by John A. Ares

First up, for the theme of "opposites," is size (big vs. small). The mother humpback is around 45 to 50ft long, while the calf is about 15ft (Photo 1). The calf is about three months old and needs to surface every five minutes to breathe. The mother can stay down typically for 20 minutes on a breath.

In Photo 2, the spadefish and cleaner wrasse were different sizes and facing different directions. Their eye contact was riveting as the wrasse was trying to sell its cleaning services. The intensity of the eye-to-eye exchange was palpable.

In Photo 3, the three squid were pulling in opposite directions. Most likely, it was two males "negotiating" to win a female. This image was taken on a night dive. In Rhode Island, shore dives in late May reliably produce squid that are "in the mood." Bright, moon-lit nights were productive. They were pairing up in the day also. Photos 4 and 5 shows a side-by-side compari-



son of two *Rhinopias* scorpionfish (facing opposite directions, contrasting in color, with light vs. dark backgrounds) in the Indo-Pacific Coral Triangle. The purple one was in North Sulawesi, Indonesia. The orange *Rhinopias* scorpionfish was in Puerto Galera, Philippines. *Rhinopias* scorpionfishes are not common. Due to rarity, both photos were





Opposites

Photo 3. Three squid, Fort Wetherill, Rhode Island, USA (left). Gear: Nikonos II camera, 35mm lens, single Ikelite S-125 strobe. Exposure: ISO 100, f/8, 1/60s

Photos 4 and 5. Rhinopias scorpionfishes, Indo-Pacific (below), Canon Rebel SL1 camera, Canon 100mm f/2.8 USM macro lens, Ikelite housing, twin Ikelite DS-161 strobes. Exposure: ISO 1200, f/11, 1/200s

JCATION





CLOCKWISE FROM ABOVE: Photo 1. Lost in the crowd, Orange Wall, West Caicos, Turks and Caicos Islands (top left). Gear: Canon PowerShot SD700 camera (at 8.64mm), Canon PowerShot housing, available light. Exposure: f/3.2, 1/100s

Photo 2. Home alone, Catacombs, Turks and Caicos Islands (top center). Gear: Canon PowerShot G11 camera, at 8.9mm, Canon PowerShot housing, available light. Exposure: ISO 200, f/4, 1/160s

Photo 3. Octopus, Piranha Cove, Turks and Caicos (top right). Gear: Canon PowerShot G11 6.1-30.5mm camera (at 18.098mm), Canon PowerShot housing for G11. Exposure: ISO 200, f/5.6, 1/60s

Photo 4. Scorpionfish, Labyrinth Wall, Roatan, Honduras (second row, far right). Gear: Olympus OM-D E-M5 Mark II camera, Olympus M.60mm f/2.8 at 60mm, Olympus PT-EP13 housing, Sea&Sea YS D-1 strobes. Exposure: ISO 200, f/11, 1/125s

X-RAY MAG: 120: 2023



Numbers, Textures and Conditions

Text and photos by Sheryl Checkman

Whenever I see a school of fish swim by, the first thing I notice is how they swim as a unit, in the same direction each individual fish just a part of the crowd—as the snappers in Photo 1, which was taken at Orange Wall in West Caicos. In contrast, the little lone squirrelfish in Photo 2 is peering out from its solitary hiding spot within the coral at the Catacombs dive site in Turks and Caicos.

The smooth and shape-altering body of the octopus, as seen at Piranha Cove in Turks and Caicos in Photo 3, has turned itself white to blend in with its surroundings, by mim-



icking the coloration of the sandy sea floor. In contrast, the scorpionfish in Photo 4 is using its bright color and leafy appearance to hide in plain sight, in the reef at Labyrinth Wall in Roatan, Honduras.

After spending up to an hour beneath the ocean, you never know what conditions await you on the surface. At Roatan in Honduras after diving on Nabs Dive Wall, I surfaced to find a stormy sky, choppy seas and rain pelting down upon me as I awaited my turn to climb aboard our dive boat (Photo 5). After a dive at Cumber Caves, in Little Cayman of the Cayman Islands, however, guite the opposite conditions greeted me-the sea was calm, and the skies were blue (Photo 6). Visit: Instagram.com/sherylcheckman





Photo 5. Bad weather, Nabs Dive Wall, Roatan, Honduras (second row, center). Gear: Olympus OM-D E-M5 Mark II camera, Olympus M. 9-18mm lens (at 18mm), Olympus PT-EP13 housing, Sea&Sea YS D-1 strobes. Exposure: ISO 200, f/8, 1/100s

Photo 6. Good weather, Cumbers Caves, Little Cayman, Cayman Islands (second row, far left). Gear: Olympus OM-D E-M5 Mark II camera, Olympus M. 9-18mm f/4.0-5.6 lens (at 9mm), Olympus PT-EP13 housing, Sea&Sea YS D-1 strobes. Exposure: ISO 200, f/11, 1/125s





Diver investigates the stern winch of the PLM 27, Bell Island, Newfoundland, Canada (left). Gear: Olympus E-620 camera, Olympus 7-14mm lens, Olympus housing, Sea&Sea YS-01 strobes. Exposure: ISO 400, f/5.6, 1/30s

Warm and Cold Wrecks

Text and photos by Larry Cohen

Shipwrecks have always been my passion. Whether I need a drysuit or a wetsuit, I enjoy diving and documenting the underwater history found on wrecks. Newfoundland is an island northeast of Nova Scotia. Ocean Quest Adventure, owned by Rick and Debbie Stanley, is a great dive operation for exploring the Bell Island wrecks. To do these dives, you need a drysuit, and a heated vest will help you be more comfortable.

The story of the Bell Island wrecks is one of the most fascinating stories of World War II. Bell Island is located near St John's in Conception Bay. In the 1890s, high-grade iron ore was discovered and mined here. In the 1930s, a large percent-



Helm stand on the Hilma Hooker, Bonaire (left). Gear: Olympus E-620 camera, Olympus 7-14mm lens, Olympus housing, Sea&Sea YS-01 strobes. Exposure: ISO 400, f/4, 1/30s

age of this iron ore went to Germany for rearmament. Once World War Il broke out, shipments to Germany ceased, and the iron ore was redirected to support armaments for the Allied Forces. Germany knew how vital the iron ore was to the Allied war effort, so they attempted to disrupt its flow to Europe. Doing so posed little challenge to German U-boats since Germany already knew the harbor. On September 4th and November 4th, 1942, the German U-boat U-518

entered Wabana Harbor and sunk the Rose Castle, for months and started to take in water. It was SS Saganaga, Lord Strathcona and PLM 27. Diving towed to an anchorage and, on 12 September these wrecks in icy waters is worth the effort. 1984, took in water, rolled over on its starboard The Hilma Hooker is a shipwreck in the bathside, and sank in 100ft (30m) of water. My dive tub-warm waters of Bonaire. In 1984, the Hilma buddy, Olga Torrey, and I did the wreck as a Hooker had engine problems and was towed to shore dive and had to swim for about 15 minutes Kralendijk, Bonaire. When docked at the town to get to the buoy that marks the wreck's locapier, the ship was inspected, and authorities tion. Exploring the ship's exterior and interior in found 25,000 lb (11,340kg) of marijuana behind a the comfortable water temperatures there was a fake bulkhead. The vessel was held as evidence pleasure. Visit: liquidimagesuw.com

X-RAY MAG: 120: 2023

FEATURES



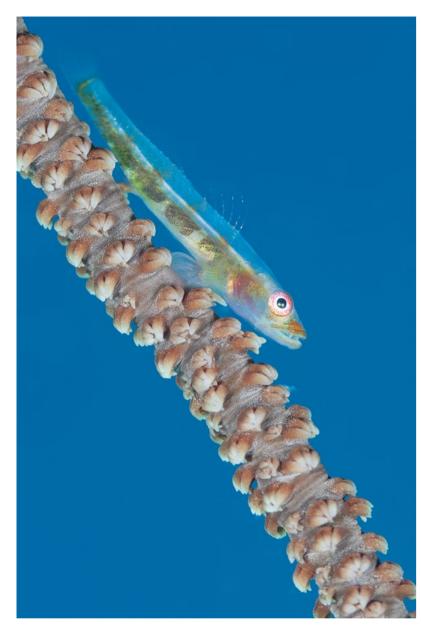
Opposites

Helm on the Hilma Hooker, Bonaire (left). Gear: Olympus E-620 camera, Olympus 7-14mm lens, Olympus housing, Sea&Sea YS-01 strobes. Exposure: ISO 100, f/4, 1/60s

Anemones decorate the sunken ship Lord Strathcong, Bell Island, Newfoundland, Canada (below). Gear: Olympus E-620 camera, Olympus 7-14mm lens, Olympus housing, Sea&Sea YS-01 strobes. Exposure: ISO 400, f/4, 1/30s



feature



Same Subject, Opposite Effects

Text and photos by Kate Jonker

Using your camera settings and lighting are a wonderful way to create different results when photographing the same (or similar) subject. It helps add interest to your portfolio, continues to challenge your photography skills and keeps you thinking "outside of the box."

Dark vs light backgrounds. To achieve a light background, use a slower shutter speed, wider aperture, and higher ISO. In contrast, for a dark



background, opt for a fast shutter speed, small aperture, and lowest ISO. Use your strobes to light your subject. When using this technique, look for a subject that only has the water column behind it.

All in focus vs little in focus. A wide-open aperture creates a shallow depth of field, separating your subject from the background and foreground, producing a pleasing blurry bokeh effect. On the other hand, a completely different image can be created using a smaller aperture to ensure the subject and surrounds are more in focus.

Next time you embark on a macro dive, try employing these techniques to capture the completely opposite images of the same subjects. It promises an enjoyable experience, yielding remarkably diverse photos from just a few dives. (For more images from the Philippines, see my article on Romblon in this issue.) Visit: katejonker.com

Whip coral goby, Bryaninops loki, Romblon Island, Philippinesphotographed using camera settings to create a blue background (far left). Exposure: ISO 160, f/5.6, 1/160s

Whip coral goby at Romblon, photographed using a faster shutter speed and smaller aperture to create a black background (left). Exposure: ISO 160, f/18, 1/200s. Gear for both images: Canon R5 camera, Canon 100mm macro lens, Marelux MX-R5 housing, two Supe D-Pro strobes

> Red dragon shrimp, Miropandalus hardingi, Romblon Island, Philippinesphotographed using a wide-open aperture to render a soft bokeh effect (right). Gear: Canon R5 camera, Canon 100mm macro lens, Marelux MX-R5 housing, two Supe D-Pro strobes. Exposure: ISO 160, f/7.1, 1/200s

> The same dragon shrimp photographed using a small aperture to ensure the entire subject is in focus (below). Gear: Canon R5 camera, Canon 100mm macro lens, Marelux MX-R5 housing, two Supe D-Pro strobes. Exposure: ISO 160, f/18, 1/200s



FEATURES

Opposites

feature

Diver, swimming through the cavernous upper engine room of the Kensho Maru shipwreck, Truk Lagoon, Chuuk, Micronesia (right and below). Gear: Nikon D810 camera, Sigma 15mm fisheye lens, Subal housing, Sea&Sea YS-D3 strobes. Exposure: ISO 1600, f/4, 1/15s





Color vs Monochrome

Text & photos by Matthew Meier

For my take on the theme of "opposites," I thought I would give readers a sneak peek at a few images from my recent travels to Truk (Chuuk) Lagoon in Micronesia (see the full article in issue #121). Back in March, I had the pleasure of diving, with Master Liveaboards, at what is often referred to as the wreck-diving capital of the world and thoroughly loved the experience!

I was immediately struck by the amount of life—both coral, and invertebrate and fish species—that were growing on and swimming around these decaying man-made structures, which have been underwater for nearly 80 years. It is sobering to consider the immense loss of human life, resources, materials and ingenuity embodied by these wrecks, which have now provided artificial homes for so many other creatures.

These images also illustrate the theme of "opposites" by comparing color and monochrome images, either as a different view of the same scene or as dissimilar ways to photograph a kindred subject. The engine room on the Kensho Maru, I believe, has more contrast, depth and clarity in black and white than when viewed in color. The soft corals and fish life on the king posts of several wrecks were spectacular, and here, they are captured upclose with strobes to highlight that kaleidoscope of color, and far away with available light to showcase the structure itself. Visit: MatthewMeierphoto.com

X-RAY MAG: 120: 2023

FEATURES

Opposites

Colorful soft corals and a school of aoldtail demoiselle fish engulf the king posts of the Kensho Maru shipwreck, Truk Lagoon, Chuuk, Micronesia (left). Gear: Nikon D810 camera, Sigma 15mm fisheye lens, Subal Housing, Sea&Sea YS-D3 strobes. Exposure: ISO 800, f/7.1, 1/160s

Large king post covered with coral growth and schooling fish on the Nippo Maru shipwreck, Truk Lagoon, Chuuk, Micronesia (below). Gear: Nikon D810 camera, Sigma 15mm fisheye lens, Subal housing, available light. Exposure: ISO 800, f/7.1, 1/60s





Juvenile sweetlips, Philippines (left). Gear: Nikon D750 camera, Nikon 60mm lens, Ikelite housing, dual Ikelite DS161 strobes. Exposure: ISO 250, f/20, 1/200s

Adult sweetlips, Komodo, Indonesia (far left). Gear: Nikon D750 camera, Nikon 10mm fisheye lens, Ikelite housing, dual Ikelite DS161 strobes. Exposure: ISO 250, f/16, 1/160s

Adult queen angelfish, Bahamas (right). Gear: Nikon D850 camera, Nikon 105mm lens, Ikelite housing, dual Ikelite DS161 strobes. Exposure: ISO 320, f/10, 1/125s

Juvenile queen angelfish, Bahamas (lower right). Gear: Nikon D850 camera, Nikon 105mm lens, Ikelite housing, dual Ikelite DS161 strobes. Exposure: ISO 200, f/13, 1/200s



to dance or undulate to prevent predation by mimicking toxic flatworms or nudibranchs). Once they become adults, they are elongated and darker overall, with many dark spots, and they stop dancing.

The emperor angelfish begins a beautiful blue, with white circles, and grows up to have blue stripes with a mostly yellow body, white face, and black eyes and fins. Other species



Adult emperor angelfish, Mabul, Malaysia (above). Gear: Nikon D750 camera, Nikon 60mm lens, Ikelite housing, dual Ikelite DS161 strobes. Exposure: ISO 250, f/18, 1/200s; Juvenile emperor angelfish, Mabul, Malaysia (right). Gear: Nikon D750 camera, Nikon 60mm lens, Ikelite housing, dual Ikelite DS161 strobes. Exposure: ISO 250, f/22, 1/200s

Juvenile French angelfish, Bahamas (center). Gear: Nikon D850 camera, Nikon 105mm lens, Ikelite housing, dual Ikelite DS161 strobes. Exposure: ISO 320, f/13, 1/125s; Adult French angelfish, Roatan, Honduras (center right). Gear: Nikon D7100 camera, Nikon 10mm fisheye lens, Ikelite housing, dual Ikelite DS161 strobes. Exposure: ISO 200, f/13, 1/125s





57 X-RAY MAG : 120 : 2023

FEATURES

Juvenile vs Adult

Text and photos by Brandi Mueller

When I think of "opposites" in the

ly from their juvenile to adult stage.

For example, the harlequin sweetlips

spots and fin tips (and they are known

starts out light brown with big white

ocean, one of the first things that come

to mind is how some fish change entire-





of angelfish also have very contrary juvenile and adult stages. The French angelfish starts out black, with yellow stripes, and becomes grayer, with yellow scales, as an adult. The queen angelfish has orange on its lower body, as well as blue and dark stripes. As an adult, it becomes greener and bluer throughout, with yellow accents and a crown of blue on its head. Visit: brandiunderwater.com





All photos were taken with a Nikon D500 camera, Tokina 10-17mm lens, Nauticam housing and Inon Z330 strobes. Tiger shark at night (top left). She appears from the mysterious dark. Focus is on her mouth and the power of her body fading into the dark. Exposure: ISO 320, FL 17, f/16, 1/125s; Tiger shark at day (top center). The transition between sand and segarass, along with the clear, tropical warmth of the water, evokes a sense of ease and comfort. Exposure: ISO 100, FL 17, f/10, 1/200s; Lemon shark at night, always smiling (center). The needle-like teeth are highlighted. Exposure: ISO 100, FL 10, f/8, 1/125s; Lemon shark at day, always smiling and sociable (above). Exposure: ISO 200, FL 10, f/8, 1/125s





Opposites do Attract!

Text and photos by Gary Rose, MD

I am not one who likes to quote clichés. But in this case, for this article, there could not be a better title than "Opposites do Attract!" As soon as I thought about which photos to use to illustrate this story, my thoughts immediately brought me to these four photos, which are two pairs of night and day captures. They absolutely draw me in and attract me every time I view them.

There is a definite contrast

same beautiful sharks, when seen in daylight, evoke a feeling of warmth and curiosity. Sharks, by nature, are very inquisitive and cannot help but provoke wonderment and curiosity when we see them in the water or view them in photographs.

In Photo 1, we can immediately feel the mystery of this beautiful, metallicappearing tiger shark, emerging from the blackness behind her. The subtle pink of her mouth draws attention to her razor-sharp, serrated teeth. Also, the power of her body is clearly seen, as it fades into the dark behind her. In Photo 2, the crystal-clear and



FEATURES

Opposites

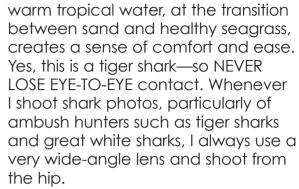


Photo 3 is very similar to Photo 1, at first glance—a shark emerging from a black void. But, in this photo, this lemon shark does not portray anything near the menace of the tiger shark. Notice that in this photo, the subtle pink of the mouth also draws your immediate attention to her needle-like teeth. In fact, she appears to be smiling, which is something lemon sharks regularly appear to do. These are helpful shark-identifying features, which help make a dive more interesting and safer for a diver who understands and recalls the differences in shark behavior between these two species.

Photo 4 was taken on a daylight dive, and therefore automatically not as threatening to divers and photographers. The beautiful and curious lemon shark in the photo has come over to visit and investigate the diver, and me, the photographer. Have you noticed the big smile on the diver's face? Lemon sharks are among the friendliest and most fun to have around during a dive. They are exceptionally social and love to play like puppy dogs!

Night and day, each create a totally different atmosphere. Darkforeboding and mysterious. Daywarm, inviting and friendly. They are Yin and Yang—opposite, but interconnected, attracting forces. Visit: garyrosephotos.com

between the mystery and primeval fear engendered in seeing sharks at night, when compared to viewing them during the day, as they alide through the sea. We can all thank the movie Jaws for that. The

feature

Cenote Garden of Eden, Plava del Carmen, Mexico (far right). Gear: Olympus OM-D E-M5 camera, Panasonic fisheve 8mm lens, Nauticam housing, dual Sea&Sea strobes. Exposure: ISO 2000, f/7.1, 1/40s

Cenote Garden of Eden, Playa del Carmen, Mexico (right). Gear: Olympus OM-D E-M5 camera, Panasonic fisheve 8mm lens, Nauticam housing, dual Sea&Sea strobes. Exposure: ISO 2000, f/7.1, 1/30s





Cenote Casa, Tulum, Quintana Roo, Mexico (bottom right). Gear: Olympus XZ-1 camera, wide-angle conversion lens, Olympus PT-050 housing, dual Sea&Sea YS-01 strobes. Exposure: ISO 500, f/6.3, 1/125s; Cenote Casa, Tulum, Quintana Roo, Mexico (bottom left). Gear: Olympus OM-D E-M5 camera, Olympus M. 12-50mm lens, Nauticam housing, dual Sea&Sea strobes. Exposure: ISO 500, f/6.3, 1/125s

Wavelengths and Seasons

Text and photos by Olga Torrey

Cenote Garden of Eden has crystal-clear waters, which are excellent for scuba diving and photography. It is a cavern with large rooms, huge chambers, vaults and gigantic galleries. The cenote has plenty of natural sunlight, making the diving experience on a sunny day more enjoyable. Diving with the bright blue rays shooting down from the surface in the Cenote Garden of Eden provides a mesmerizing experience and shows off the cenote at its best!

Blue light has short wavelengths and has higher energy to penetrate deeper than other colors, as seen in the Cenote Garden of Eden. Divers will find all underwater features only in blue, once they reach a certain depth. So, underwater photographers flash white light on an object underwater to capture the full spectrum of colors.

Cenote Casa is close to the ocean and is home to a mix of freshwater and saltwater fish. We can see in this cenote the diversity of flora and fauna found on the Caribbean coastline of Mexico. The cenote is separated from the sea by the beach and a tunnel of about 50 meters. The dive starts in an open water area between the manaroves.

Transparent water with a low accumulation of dissolved materials appears blue, but during the rainy season, the cenote water changes colors, because it becomes rich in phytoplankton and other algae, and usually appears green. Cenote Casa did not disappoint and gave me many opportunities for photography. Visit: fitimage.nyc

SOURCES: MANOA.HAWAII.EDU, WATERBOARDS.CA.GOV

Opposites

