





Fluorescent tube anemone, Cerianthus membranaceus

Fluorescent leopard slug, Peltodoris atromaculata; Port LLigat (right); Red starfish (lower right). PRE-VIOUS PAGE: Dive master Saara-Kaira Takala with Mediterranean gargonian, Paramuricea clavata

When people from the United States go on a European vacation, diving is usually not on the agenda. But the Costa Brava area on the northeastern coast of Spain offers some interesting diving. It might not be as colorful as the Red Sea or Indonesia, but add on the cultural experience, and it is worth a visit. Divers from France, Belgium, Switzerland, Netherlands and the rest of Europe have been coming here for years. This is the journey of two divers from New York City, as they explore Spain's sites and culture above and below the water.



Barcelona is about a two-hour drive from Costa Brava. On a trip from the United States this a great place to start. Barcelona offers world-class museums, cuisine and beaches. It is also a party town with plenty of clubs, and bars. Just strolling along the streets from neighborhood to neighborhood is an adventure. People watching, viewing the architecture and visiting the cafés is very compelling. Arriving from New York City on the red-eye, the time difference does take its toll. Arriving in Barcelona mid-morning, the local custom of a siesta seemed appropriate before hitting the streets.

An evening walk in the Gothic

Quarter was the perfect start for our exploration of the city. The narrow streets have an abundance of restaurants and bars located in ancient Roman style buildings. Las Ramblas is one of the wider streets in the area. It is primarily a pedestrian walk with only two narrow oneway traffic roads on both sides of the central area. This gives the boulevard a street fair ambiance 24 hours a day.

Having only one full day in Barcelona, we decided to concentrate on the architecture of Antoni Gaudí. Gaudí was born in 1852 and died in 1926. He was part of the Catalan Modernista (Modernism) movement. This widescale movement reached

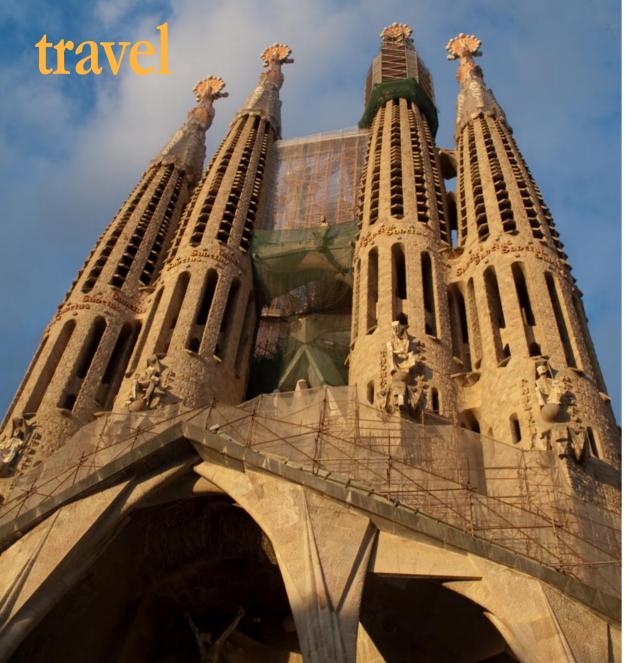


its peak in the late 19th and early 20th centuries across all of the arts. Gaudí's work transcended mainstream Modernism, having an organic style inspired by nature.

X-RAY MAG: 52: 2013

TRAVEL

Spain





Streets of Barcelona are lined with scooters and Vespas

Gaudí rarely drew detailed plans of his works; he would create three-dimensional scale models while he was conceiving the ideas. A Gaudí buildina is so unique. even people who know nothing about architecture or Gaudí will intuitively be able to identify one. For this reason, UNESCO recognized his buildings as World Heritage sites in 1984. La Pedrera is one of Gaudí's main residential buildings and is extremely imaginative. It is located at Passeig de Gràcia 92. This



structure is more a sculpture than a building. It was built during the years 1905–1910, being considered officially completed in 1912. The roof is unusual; its architectural and sculptural elements can be seen from the street. Ventilation shafts and chimneys are decorated with broken fragments of tile. The stone railings around the perimeter follow the shape of the façade. You could tell Gaudí was fond of a harmonious solution between the curves of the façade and roof.

Casa Batlló is the total restoration in 1904 of an old conventional house built in 1877. The building is located at Passeig de Gràcia 43. Gaudí replaced the original facade with a new composition of stone and glass. He redesigned the external walls to give them a wavy shape, which was then plastered with lime mortar and covered with fragments of colored glass and ceramic discs. The balcony railings are in the shape of a mask. The building was highly criticized during construction for its radical design. But in 1906, the Barcelona City Council deemed it one of the three best buildings of the year.

La Sagrada Familia is located at Carrer de Mallorca 401 in the centre of Barcelona. It has become one of the most universal symbols of the city. Construction on the church began in 1882 by the diocesan

architect Francisco de Paula del Villar. At the end of 1883, Gaudí was commissioned to carry on the work. He did not abandon this project until his death. The church presents a great depiction of the relationship between man, nature and religion through its architecture and façade sculptures. Construction on the church is still taking place today. It is anticipated the church will be completed in 2026. This will be the centennial of Gaudí's death.

When walking around Barcelona, you see signs everywhere of the Catalan independence movement. What is now the northern region of Spain was part of Catalonia since the Middle Ages. The people of this area have their own culture and language. With unemployment in Spain at an all time high, many people believe the area would be better off as an independent state. A flag with red and yellow stripes and a white star inside a triangle symbolizes the movement. This flag can be seen hanging on many balconies along the streets of Barcelona.



THIS PAGE: Scenes from Barcelona; Buildings by the great architect Antoni Gaudí can be found throughout the city, including La Pedrera, Casa Batlló, Casa Milà (top right) and Temple Expiatori de la Sagrada Família (top left) still in progress



21 X-RAY MAG: 52: 2013

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CLOCKWISE FROM ABOVE: Sant Pere Church interior; Dalí Theater Museum; Sant Pere Church; Winding road between Figueres and Rosas; Small fishing village of Rosas; Surreal sculpture on Dalí Theater Museum includes Mark V dive gear



The drive

Getting around Europe by train is supposed to be very easy. But to get to Hotel Cala Joncols in Rosas would have required a train to Figueres, a bus to Rosas, and then a pick up with the hotel's car. We decided that renting a car would be a more practical way to go, considering the cases and cases of equipment.

Prior to departure, we arranged to rent a Peugeot Partner, which is a small van. We went with Sixt, a popular rental company in Europe that now has a few locations in the United States. We picked the Hilton



Hotel at Diagonal Mar, since it looked like it had easy access outside the city. The car rental agent spoke fluent English and gave us directions on how to exit Barcelona and get to Rosas. Once I remembered how to drive a manual transmission car, the drive went rather smoothly.

FigueresUpon leaving the

main highway, we decided to take a detour to the town of Figueres. This town has a compact historic area that has the ambiance of the Gothic Quarter of Barcelona but on a much smaller scale. The town was established during the 10th century, according to the records from the Sant Pere Monastery. The Sant Pere church is still at this location. The name Figueres means fig trees, which are abundant in the area. It is the last major town before crossing the boarder into France.

The main attraction here is the Dalí Theatre-Museum, of course

Spain

featuring the work of Salvador Dalí. This is the laraest surrealistic object collection in the world. The museum is located on the site of the former Municipal Theatre—a 19th century building that was destroyed at the end of the Spanish Civil War

Dalí purchased the old theatre and created his own museum in the town where he was born. Showing up at the museum on a Monday, it was closed, but the building itself and the surrounding sculptures were certainty worth the visit.

Getting there is half the fun

After leaving Figueres, we did get lost going to Rosas. The road between Figueres and Rosas had a number of round-abouts.

There were signs, and then they would just disappear, so we did not know in which direction to head. After getting directions from someone who hardly spoke English, we managed to arrive at the marina in Rosas. Here, we found someone who spoke fluent English, and we asked for directions to Hotel Cala Joncols.

They directed us to a road up a steep hill. This two-way road was narrower than most one-way roads on the U.S. east coast. The road also overlooked a

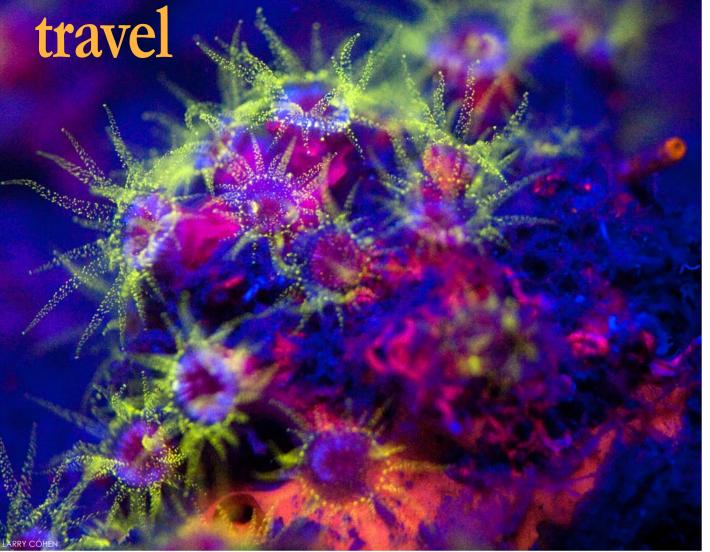








22 X-RAY MAG : 52 : 2013 EDITORIAL FEATURES TRAVEL NEWS WRECKS EQUIPMENT BOOKS SCIENCE & ECOLOGY TECH EDUCATION PROFILES PHOTO & VIDEO POR











LEFT TO RIGHT: Hotel Cala Joncols, nestled on a hillside; Fluorescent sunset cup coral, *Leptopsammia pruvoti*; Female blenny, *Tripterygion*, and bigscale scorpionfish, *Scorpaena scrofa*; Diver Martine Desitter enters swim-through at La Caverna

steep cliff. To add to the adventure, after a short drive, it turned into a rough dirt road. Considering the fact that I had not driven a manual transmission car in many years, this drive was an experience all on its own.

Once we were able to subdue the

fright factor, it was a picturesque ride. Most of it was through the Cap De Creus National Park. This is the most easterly point of Spain where you see the last glimpse of the Pyrenees before they plunge into the Mediterranean Sea. Part of the park is underwater, but it is also known for bird migration. Kites, eagles and honey buzzard are just a few of

the bird species that migrate past the park. Bonelli's eagles and sea birds including Cory's, balearic and yelkouan shearwaters call the park home.

Finally arriving at the hotel, we were so happy to get out of the car. When we commented on the experience, a hotel

staff member asked jokingly, "So, you don't like Spanish super highways?"

Hotel Cala Joncols

Besides diving, the theme of this hotel is adventure. Kayaking, hiking and mountain biking are some of the other activities. When there is a full moon, you can do a night kayak tour, which includes a guide and a bottle of cava (sparking wine). This out-of-the-way establishment has 33 rooms, and many of the guests come back every year. The hotel is only open from April to October.

The place has a fascinating history. Jose Gomez and his wife, Maria Fernandez, came to Rosas in 1969. Jose worked as a gardener for the hotel's Italian owners. In 1970, Jose and Maria rented the hotel from the owners and ended up purchasing it in 1995. Their two sons, Michael and Manuel Gomez Fernandez, now run the hotel.

They also run a water taxi to Port Lligat. This is the village where Salvador Dalí lived. Port Lligat has been represented in several of Dalí's paintings, such as The Madonna of Port Lligat, Crucifixion (Corpus Hypercubus), and The Sacrament of the Last Supper.

With all the outdoor activity, food is very important, and Cala Joncols does not disappoint. All the Spanish and Catalan food is very local. The family owns its own 21-foot fishing boat, which provides the seafood for the hotel. The olive trees on premises produce 3,000 kilos of olives a year, which are used to produce olive oil for the hotel.

Diving

Euro-Divers has been running the five star PADI facility at Cala Joncols since 2003, but the dive operation has existed for 20 years. Euro-Divers also has operations



Delicious meals and stunning views greet guests at Hotel Cala Joncols



23 X-RAY MAG: 52: 2013

EDITORIA

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Diver photographs white sea fan at La Piscina

LEFT TO RIGHT: Common octopus in sand of house reef in front of Hotel Cala Joncols; Anemone, Alicia mirabilis, closed up, opens at night; Shark egg case of nursehound, Scyliorhinus stellaris (inset right)

in Croatia, Egypt, Indonesia, Japan, Maldives, Mauritius, Oman and Thailand. The international staff in Spain is led by the husband and wife team of Jan Boelen and Martine Desitter from Belgium. Etienne Zind from France is the dive center manager. Dive masters include Mauro Valverde from Uruguay, Saara-Kaira Takala from Finland, and Dennis Rabbeling from the Netherlands. Dennis is also the resident photographer.

Euro-Divers' season runs from April to October, but many locals dive all year round. Water temperature is 55°F (13°C) in the winter and can get as warm as 73°F (23°C) in the summer. Besides the staff, guest instructors come in to teach specialties including rebreather, side-mount, photography and marine biology. They also run an IDC (instructor development course) course. Michael and Manuel Gomez Fernandez own the 60-foot dive boat, and

they rent it to Euro-Divers. The boat with two diesel engines features an hydraulic lift instead of a dive ladder. Diving with double tanks and photo gear, this setup is a pleasure.

Safety

Safety is a major concern for the diving and other adventure activities. Euro-Divers does not allow decompression diving and limits run times to one hour. In Spain, the law states that you cannot dive deeper than 130ft (40m). In case there is a problem, Martine is a trained EMT (emergency medical technician). The hotel is secluded, but from June to September, there is a Red Cross station just 20 minutes away. In Rosas, there is a small hospital and a large one in Collado de Fenes. There are recompression chambers in both Palamós, Spain, and Perpignan, France. Both of these locations are about 43.5 miles (70km) away.

Diving the beach

The beach right next to the hotel is full of tiny creatures. This is far from a pretty dive site. Mostly gray with plenty of silt, it is the Spanish version of muck diving. Diving in less than 20ft (6m) of water, one can encounter tiny scorpionfish, octopus and sauids. The trained eye can spot a number of different species of seahorses. We spotted a small goby, which was being very aggressive. Upon later examination of the photos, we saw that the tiny creature was protecting a nest with

It also pays to check under the silt. Our eagle-eyed guide Dennis spotted an outline



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in the sand. After some gentle fanning he uncovered a large skate.

Boat diving

Dive sites such as La Caverna,
Norfeu Nord, Punta Prima, Trencat,
La Piscine and El Bisbal are only
about a 10- to 15-minute boat ride
away. All of these sites are part of
the Cap De Creus nature reserve.
These sites have a rocky terrain
with many swim-throughs and small
caves. The walls are decorated

with gorgonians of many different colors. Red gorgonians are very common in the Mediterranean Sea, but the multicolored ones are only found is a small triangle that includes Rosas, Cadaqués and L'Estartit.

On these walls is a variety of marine life. One can spot grouper, barracuda, scorpionfish and a variety of gobies. Mola molas can be spotted at the end of May to the beginning of June. Although these sites are in a nature reserve,



LEFT TO RIGHT: Yellow sponge, Clathrina clathrus; Long-snouted seahorse; Hydrolic lift on dive boat provides easy access

it does appear that over-fishing has taken its toll. There really is not a large number of fish compared to other dive locations. But the dives are still worth doing.

There are many smaller creatures including an assortment of nudibranchs. Most of these tiny animals can be seen swaying in the current on a colorful gorgonian. But we also saw one the size of a dinner plate. Octopus, moray eels and seahorses can also be observed on these dives. There is a small shipwreck at El Bisbal. Here, we saw a spotted stingray.

Fluorescent diving

Fluorescence is the absorption of one wavelength of light and the re-emission of another different wavelength of light. A fluorescent object under white light reveals the object's true color. Under ultraviolet (UV) light, the object absorbs the blue and re-emits a glowing fluorescent color. This is different than phosphorescence, or bioluminescence. Marine life that fluoresces has the ability to convert one color into an entirely different color. Scientists are not

sure why marine life produce fluorescence. Some believe marine life fluorescence is a way for them to express themselves, similar to our moods. In any case, it is a unique way to observe the underwater world.

The way this works is you have a special orange filter taped into your dive mask. You then use a special ultraviolet LED dive light. In order to see the fluorescence, we have to remove all the white light. So, these dives should be done at night or in one of the small caves.

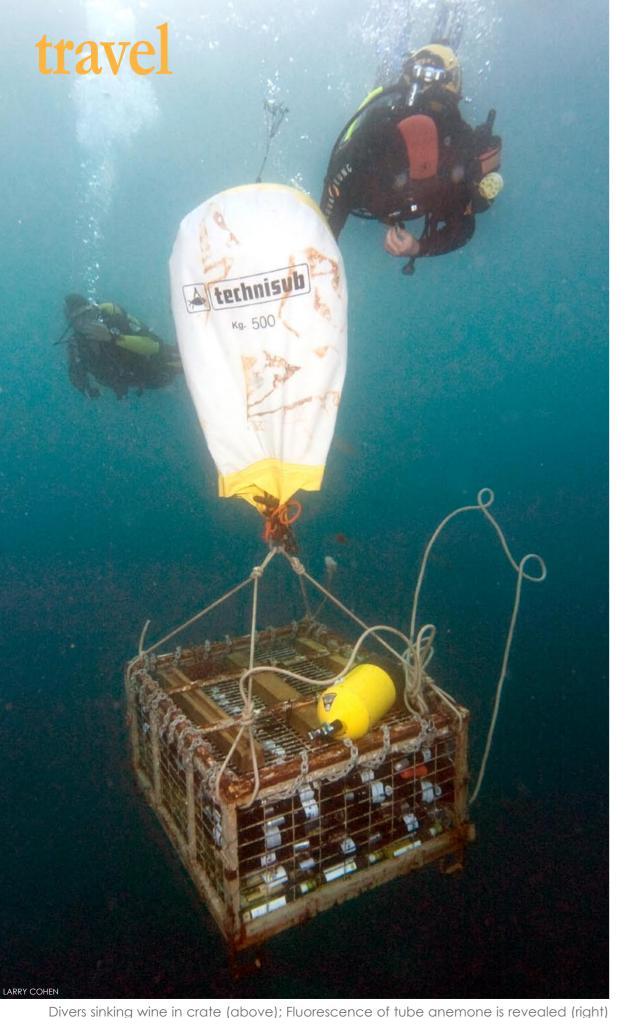
In order to do photography, we taped the special orange gel onto our lenses. We then mounted the special ultraviolet LED dive lights to our strobe arms. Between the blue dive lights and the orange



With special filter masks, divers can see fluorescence as in this tube anemone



5 X-RAY MAG: 52: 2013





Euro-Divers staff prepare wine for sinking (above); A taste of the sunken wine (right)

filters, you lose a significant amount of light. We pushed the ISO to 1000 but were still shooting at a slow 1/15th of a second shutter speed. In order to get sharp images, we had to brace ourselves creating a human tripod with our elbows. It would have been much better to have UV filters to place over our strobes. This way, we would not have had to deal with the slow shutter speeds.

The other problem with fluorescence photography is that we needed to have the special orange filter over our eyes to find our subjects, but then had to remove the filters so we could use our cameras. We wore welding masks over our dive masks with the filters taped into the visors. The plan was to leave the welding masks on, raising and lowering the visors as needed.

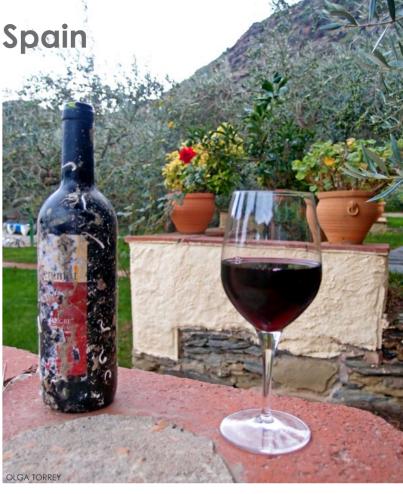
Well, so much for plans! As soon as we jumped in the water, the welding masks floated off our heads. We kept putting them back on and making them tighter. But no matter how hard we tried, the welding masks would not stay in place. So, we just hand held the welding masks, while trying to shoot. This was frustrating and comical at the same time. It is amazing we captured any photographs at all. But the entire process was well worth the effort. Seeing marine life in, literally, a new light was one of the highlights of this trip.

Sinking of the wine

Espelt is a large family-run winery five miles (8km) from Cala Joncols. Damia Espelt is the owner, and now Anna Espelt is in charge. Three years ago, the Espelt family, Cala Joncols and Euro-Divers decided to do an experiment. The Euro-Diver staff sunk a number of crates of wine to 33ft (10m). The wine was retrieved eight months later and tested. Both expert wine tasters and lab testing showed that being under pressure did improve the wine. The wines sunk were very young, and they matured

faster under the Mediterranean Sea.

The wines sunk during our visit were Vailet (white), ViDivi (red) and Escuturit Brut Cava (sparkling). The process was fascinating. Two huge locked crates filled with wine bottles were placed on the beach. Lines were attached connecting the crates to the boats, and the wine was dragged into deeper water. Lift bags were attached to the crates so they would float until they were positioned over the spot they would be sunk. Once over the spot, divers carefully removed the air from the lift baas



lowering the wine to the bottom of the Mediterranean Sea. Then a small amount of air was added to the bags, and the crates were moved into the exact spot. After this, all the lines were removed.

These days, the underwater wine is only being served at Cala Joncols, being sold for double the normal price. If there is a small group of divers at the hotel when it



26 X-RAY MAG: 52: 2013 TRAVEL



Larry Cohen and Olga Torrey ready to dive with special masks to see fluorescence in marine life on the reef

is time to retrieve the wine, Euro-Divers runs a scavenaer hunt. The locks are removed, and any diver that finds the crate can take one bottle of wine.

Special arouper study

Rosas and San Carlos De Rapita are the largest fisheries in Catalonia. Confraria de Pescadors de Roses is an association of individual fishermen from these ports, but they act as a corporation. Having power in numbers, they buy their equipment as a group, saving money.

Besides running fishing boats, they farm 50 tons of Luvina (sea bass) a year in the Bay of Rosas. They also produce fish products including jars of Fumet de peix (fish stock). They started selling this product in January 2012 and have sold over 30,000 jars worldwide. Keeping the local flavor, the caps have an illustration of a wave and the La Ciudadela de Rosas, which is the old fort overlooking







Scenic point on Costa Brava (top right): Precious coral, Corallium rubrum (top center); Nudibranch Cratena peregrina (left)

they sell eight to 11 million euros worth of seafood a year. The fish market in Rosas is operated like an auction. Buyers from all over Spain come to try and get a low price on large quantities of seafood.

the Bay of

Rosas. All

together,

Antonio Abad Mallol is the president of Confraria de Pescadors de Roses and works closely with government agencies and environmental groups. One of his most important programs is the XRAQ scientific project. This is a group of many projects to help the fish population in the area. Biologist Anna Nebot and Pablo Bou are the coordinators. Many different universities do the research, and Anna and Pablo make sure the data gets used. Antonio and the staffs at Cala Joncols and Euro-Divers are working with the local fisherman. If fishermen catch groupers with eggs, the fish are not brought to

market. Instead, they will be held, studied and released. The fisherman will be paid the same amount of money as if the fish were sold for food.

Groupers are one of the many fish species that change sex. The females are small; as they grow larger they become males. The large males tend to get over fished. Another project is to take the small females and inject them with hormones. This process will turn them into large males. They are then reintroduced into unprotected areas where they can be fished. During our dives, we only observed small groupers once. Hopefully, these projects will increase the grouper population.

Diving the Costa Brava region of Spain is a perfect addition to a vacation in Europe. Hotel Cala Joncols offers enough

adventure activities to keep non-diving family members happy while the diver is exploring the sites under the Mediterranean Sea. This is easy recreational diving. There might not be enough fish to please some critter hunters, but there are still plenty of subjects for the underwater photographer. The fluo-

rescent diving and the sinking of the wine Larry Cohen and Olga Torrey are underexperience and enjoy.



were very unique underwater activities to water photographers based in New York

27 X-RAY MAG: 52: 2013

TRAVEL

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