

Freediving at Italy's Y-40, the world's deepest thermal pool

As the sport enjoys a surge in popularity, a 42-metre-deep pool just west of Venice has become a magnet for those eager to learn

Tristan Kennedy 12 HOURS AGO

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Guillaume Néry, a champion freediver, at the Y-40 pool © Julie Gautier/ Guillaume Néry/Caters Media Group



From where I'm standing, five metres beneath the surface of the swimming pool, I can see the disembodied legs of two ballerinas, their torsos invisible as they catch their breath on the side. With the sunlight streaming in above them, every splash looks like an explosion of silver. Each ripple paints refracted lines on the pool's dark blue walls.

On some hidden signal, the pair dive down below me. Then, they begin to dance — sweeping their limbs into a series of impossibly graceful poses as they spiral around each other back towards the surface.

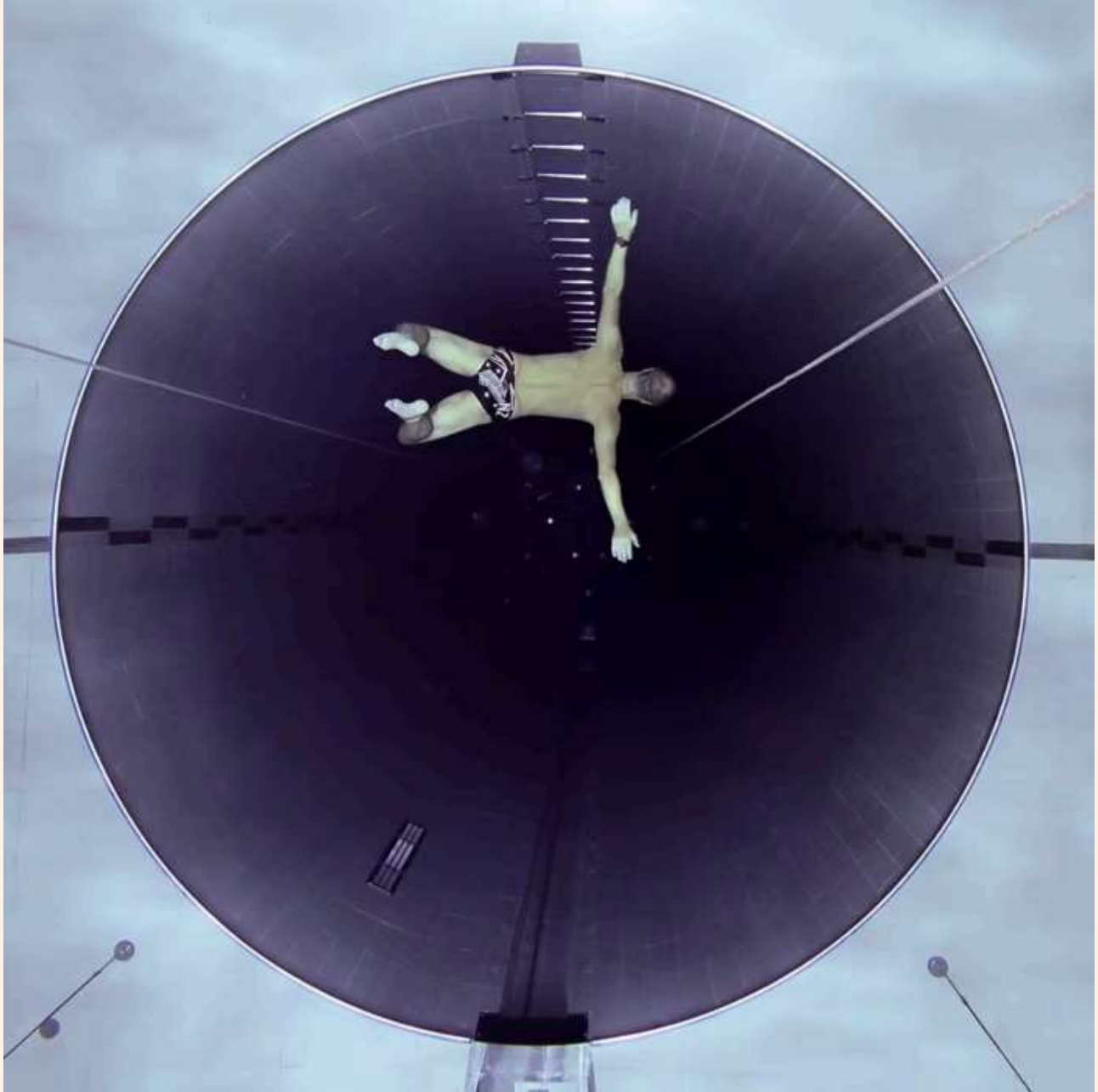
This surreal spectacle is apparently normal at Y-40, a dive training facility in the spa town of Montegrotto Terme, about 40km west of Venice. "They're preparing for a music video," says Iris Rocca, the pool's press manager. Such is the demand for film shoots, she explains, that the pool now closes one day a week to accommodate them. Gianna Nannini — Italy's answer to Joan Jett — is just one of the long list of local singers and actors who have filmed at the facility, she says. "And just recently, we had Vincent Cassel come to shoot his new movie here."

It's easy to see why artists and auteurs would want to work in this otherworldly space. It's not just visually stunning, it's vast — the pool holds 4.3mn litres of water, and took nine days to fill when it first opened in 2014. The Y-40 team “once submerged a Fiat Cinquecento, just for fun,” Rocca says, but if you wanted to go full rock'n'roll, you could easily fit a whole fleet of Rolls-Royces.



Appropriately enough, given its appearance, “the idea for Y-40 started from a dream,” according to Giovanni Boaretto, the 38-year-old scion of the family which owns the pool, and its executive manager. His father Emanuele was an architecture student and a keen scuba diver, whose parents owned a spa hotel in Montegrotto Terme. An otherwise unremarkable suburban town, just outside Padua, Montegrotto has been famous since Roman times for its waters, which gush from the ground at temperatures of up to 87C. Emanuele came up with the idea of channelling them into a deep, naturally

heated pool that would allow him to pursue his hobby in winter. But life — and running the family business — got in the way. “So for 35 years, it was just a dream,” says Giovanni, until Emanuele finally dug out his old drawings. Excavation started on a site next to the family’s Hotel Millepini Terme in 2013.



Descending towards the bottom of the pool at 42.15 metres © Nico Cardin

These days, the pool attracts more business than the hotel, Giovanni says, but the two work in tandem, with long-weekend packages that combine diving, spa time and accommodation. The pool's name, pronounced "*Ypsilon meno quaranta*" (Y minus forty) references its extreme depth. "The idea is it's 40 metres down on the Y axis," Rocca explains, "although technically it's 42.15 metres at the very deepest point." For six years, Y-40 held the record for deepest swimming pool in the world — until it was trumped by one in Poland then another, inevitably, in Dubai. But it retains the title of world's deepest geothermally heated swimming pool, and has unique features that have never been replicated.

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As you fill your lungs, you need to empty your mind

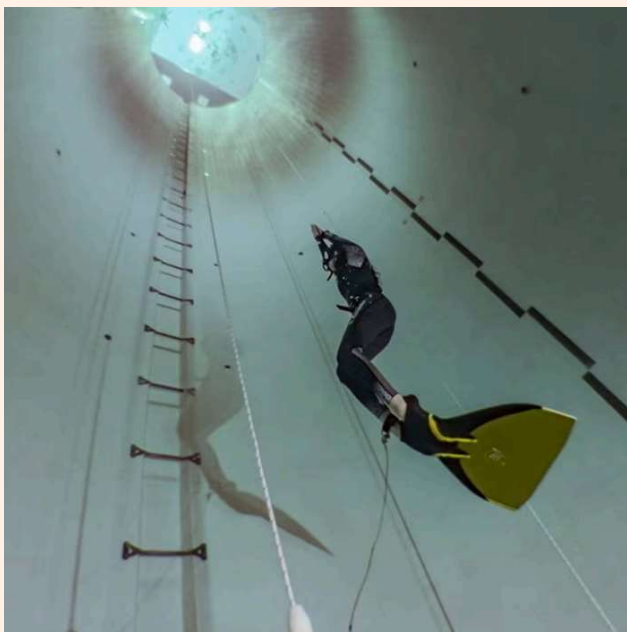
Marco Mardollo, freediving instructor

The round-topped tunnel I'm standing in, for example, is the world's only suspended underwater footbridge, and an engineering marvel. It's made of a special methacrylate resin which doesn't distort light when it's curved, Rocca explains. "If you had glass this thick and this concave, everything would look bigger, like

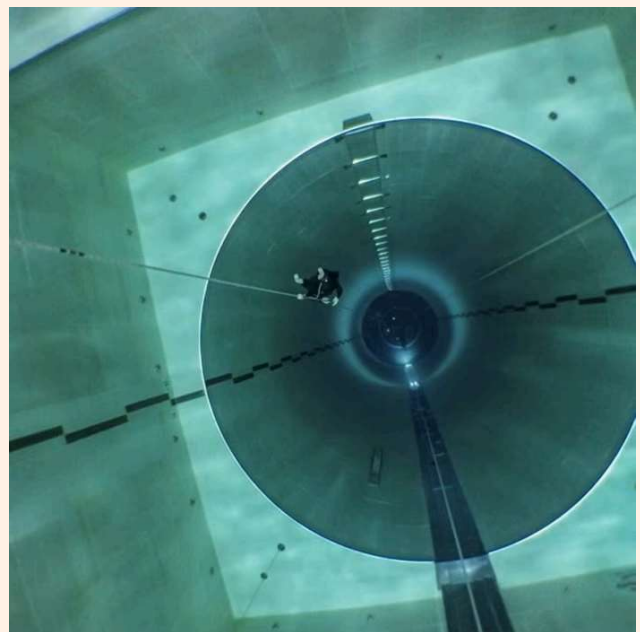
a fairground hall of mirrors. With this, you get a clear view."

On the other side of the aquarium-like arena from the ballerinas, I get a glimpse of what the pool is more often used for — and it's scarcely any less strange-looking. Mermaid-like creatures, with monofins on their feet, gather in groups around vertical ropes suspended from buoys on the surface. These are freedivers in training, practising apnoea — the art of not breathing.

Freediving — diving as deep as you can on a single breath — has probably been around for as long as humans have been able to swim. There are references to freedivers being paid to clear paths for ships in Thucydides' 431BC account of the Peloponnesian War, while the earliest records of pearl diving in Japan date back at least 2,000 years. It wasn't until the second half of the 20th century, however, that people started doing it for fun, or for sport.



Re-ascending towards the surface from deep within the hole



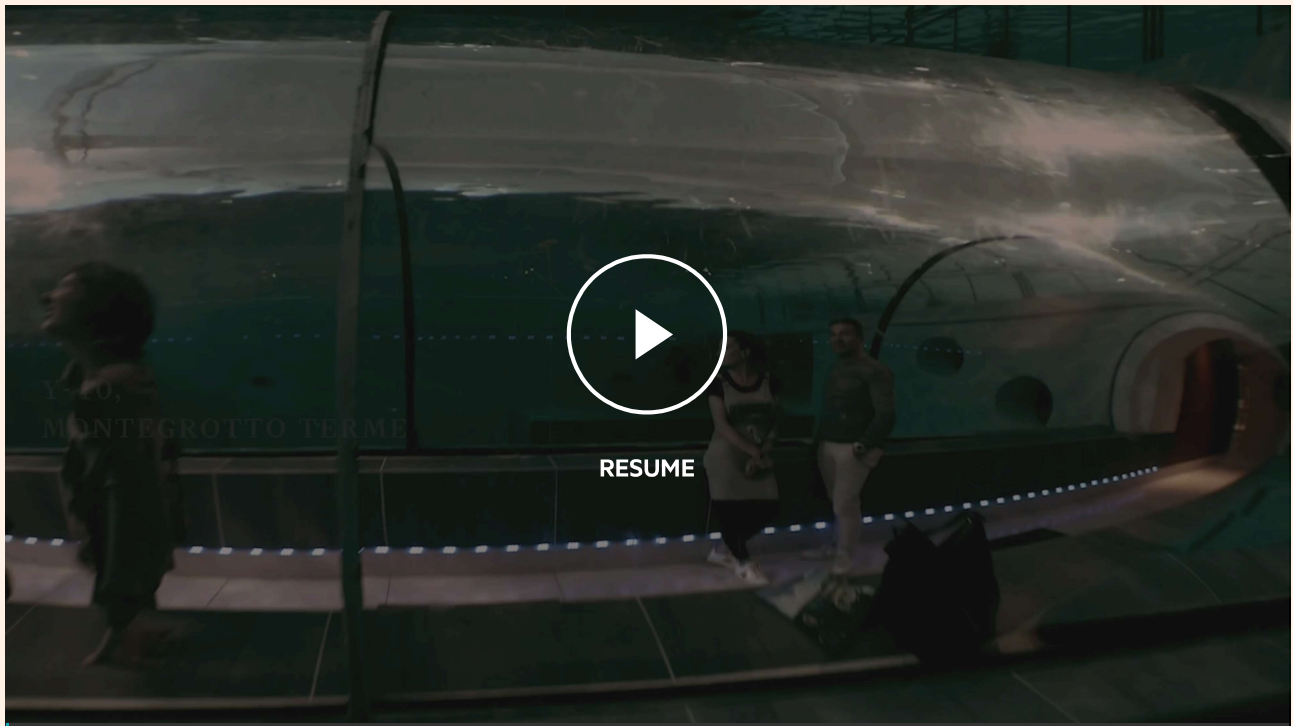
A diver descends along a rope © Stephen Mesureur

Most histories trace the start of competitive freediving to 1949, when Raimondo Bucher, a captain in the Italian air force, dived 30 metres to the seabed near Naples for a bet. With its warm seas and long coastline, Italy has been a hotspot for the sport ever since. For many years it remained a relatively niche pursuit but its emphasis on breathwork, calming your mind, and listening to your body seems to chime with 21st century enthusiasms and the discipline is now enjoying a surge in popularity.

“Before the pandemic, freediver certifications were steadily increasing by five per cent a year,” says Julie Andersen, global brand director at Padi, the Professional Association of Diving Instructors, which accredits the vast majority of recreational scuba and free divers around the world. “But in the last four years, we’ve seen a significant jump in demand. People not only want to connect with the ocean, but with themselves too.”

Francesco Corucci, who runs the Deep Instinct Freediving school in Tuscany, says he's also noticed a change in the types of people taking up the sport. "It used to be very male-dominated, a discipline that mostly attracted spear-fishermen," he says. "Now you get lots of people who don't fish, and a lot more women. Our courses are fifty-fifty now."

It helps, too, that the sport is incredibly Instagram-friendly, he says, a factor Andersen also credits with boosting its appeal. "There's been a surge in stunning images thanks to social media, and multiple documentaries," she says. Perhaps the most impactful of these is *The Deepest Breath*, released on Netflix last summer — a film which also led to an uptick in inquiries at Y-40.



© Julie Gautier/ Guillaume Néry/Caters Media Group



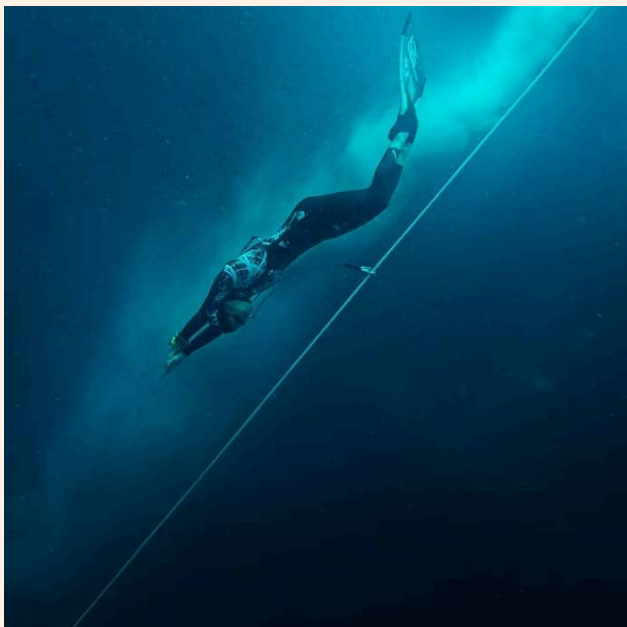
Alessia Zecchini, the Italian freediving world champion who stars in the documentary, also noticed its impact. "After the film, so many people wrote to me saying they started to try freediving," she says. A former child prodigy, Zecchini holds the current world record for "constant weight" freediving — the sport's blue riband event, which involves diving using just fins or a monofin, rather than ropes or weights. She broke her own previous depth record by descending to 123 metres last May.

While she's clearly an inspirational figure, *The Deepest Breath* is not an unquestioning advert for the sport. Focusing on the relationship between Zecchini and Stephen Keenan, her coach, it's full of beautiful underwater-scapes, shot at the tropical sites that feature on the professional circuit. But it doesn't shy away from showing the darker side of freediving, and ultimately culminates in Keenan's death, sacrificing his own safety to save Zecchini during a difficult dive gone wrong. It's an incident she still finds tough to talk about, six years later.

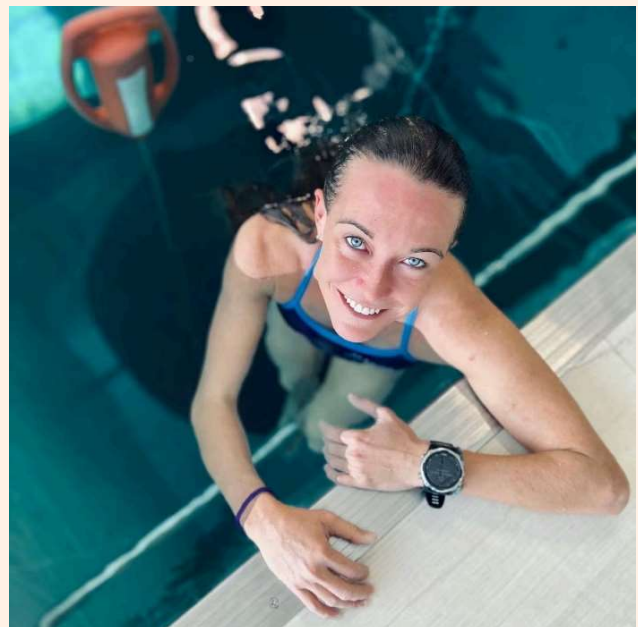
There's no doubt that freediving can be dangerous. In constant weight competitions, where the world's top athletes are pushing themselves to the limit, holding their breath for over four minutes at a time, miscalculations are common. The film shows several scenes of unconscious competitors being pushed up the last few metres by safety divers, with eyes rolling back in their heads.



Alessia Zecchini and Stephen Keenan in the Netflix documentary 'The Deepest Breath' © Alamy



Alessia Zecchini, a freediving world champion, in the Netflix documentary © Netflix



Zecchini at Y-40; she visits once a month for training

Mentioning this, however, is enough to make Zecchini roll her own eyes in exasperation. Blackouts do happen, she says, “but it’s never as extreme as they show it in the film”. Netflix over-dramatised several scenes, she says, pointing out that there’s only ever been one recorded case of a diver dying in competition. As a recreational activity, she assures me, it’s extremely safe — especially in a controlled environment like Y-40.

“It’s the best,” Zecchini says. “I go there once a month, for three days, and it’s super good for my training.” In any case, she says, when I tell her I will be visiting the pool myself the following day, thinking about danger while freediving is the worst thing you can do. Fear and adrenaline mean your body uses oxygen more quickly. “So I’ve learned to completely control my emotions, to control my thoughts.”

“When you start to dive,” she advises, “really the only thing that you have to do is be present. You don’t want to think about anything else in that moment.”

With his neatly cropped grey hair and speedos, Marco Mardollo, my instructor at Y-40, looks like a high-school swim coach, but speaks with the sonorous voice of a spiritual guru. When it comes to freediving, brain and body must work together, he explains. “As you fill your lungs, you need to empty your mind.”

The process of relaxing starts as soon as I step into the water. It’s maintained at a bathtub-like 32C, thanks to its hot spring source. Mardollo begins by taking me through some basic breathing exercises, encouraging me to feel the difference between my regular, shallow breaths and full diaphragmatic breathing — consciously engaging your whole chest to maximise your lungs’ capacity. “Close your eyes,” he instructs, and then counts down slowly, like an anaesthetist, from 30 seconds, to 15, to “ten, nine, eight . . .” before I put my head under.



Emanuele Boaretto, the pool's architect, in its underwater footbridge
© Giacomo Fe



A diagram of Boaretto's design; it opened beside the family's spa hotel in June 2014

This is static apnoea, the most basic form of the sport, and a competitive discipline in itself. Floating face down means freedivers can minimise movement and maximise their breath holds. The world record, set by Frenchman Stéphane Mifsud, is an incredible 11 minutes 35 seconds. I manage one minute and 40 on my first attempt. But on round two, after a few pointers from Mardollo, I make it to two minutes 15 before my diaphragm starts spasming involuntarily, and I have to come up for air.

Despite the instinctive feeling of panic, there's something satisfying about fighting these chest contractions. And when I do surface, my breaths aren't ragged or gasping, as they would be when finishing a long run, but deep and even. "Your heart rate actually slows down when you hold your breath," Mardollo explains, one of a range of physiological responses known as the mammalian diving reflex, "so you might actually feel more relaxed."

Having got the basics of breathing, it's time to practise swimming. I don a pair of fins and follow a horizontal rope along the length of the pool, focusing on keeping my movements as efficient as possible. It's only when we head to the deep end that I run into trouble. The simple act of making your ears go pop — equalising the air pressure in your sinuses — is an essential skill in freediving. It's easy enough when you're a metre or so deep, but when we switch from the horizontal rope to a vertical line, and start to dive deeper, I struggle.



A freediving course in progress at the pool © Olivier Morin

I have plenty of puff in my lungs, but time and again, when I reach the eight-metre mark, the pressure in my ears becomes too painful, and I'm forced back to the surface. Eventually, as we're nearing the end of our lesson, Mardollo suggests I take my fins off, and try descending feet first. "You might find it easier to equalise like that, because air always wants to go up," he says.

Remembering Alessia Zecchini's advice, I banish my frustrated thoughts, fill my lungs, and dive once more. I'm still no natural, but by squeezing my nose hard, I manage to make my ears squeak twice on the way down. Before I know it, I'm standing on a platform 10 metres beneath the surface. Suddenly comfortable, I have time to take in my surroundings, even waving at the people in the footbridge above me. As I resurface, elated, Mardollo flashes the "OK" sign. "Already, you've reached a depth that most humans never swim to," he says.

Stepping into the cold car park from the womb-like warmth of the Y-40 building feels like coming back to Earth with a bump. The suburban streets of Montegrotto look even more ordinary after several hours in a giant human fish tank, but it's not just that. "I believe everyone has a semi-aquatic part of their brain," Corucci, the freediving coach from Tuscany told me before my visit. "Once you start to dive, it's as if a barrier breaks — your brain and your body remembers that there is something profound about immersing yourself in water." Although I've barely dipped my toe into this underwater world, I'm beginning to understand what he means.

Details

Tristan Kennedy was a guest of Y-40 (y-40.com), where a 90-minute beginner's freediving session with an instructor costs from €89. A package with two nights at the adjoining hotel, use of the various spa pools and the 90-minute freediving session costs from €252, based on two sharing. Padi's website lists freediving courses in pools and the sea worldwide, see padi.com. Deep Instinct Freediving in Livorno (deepinstinctfreediving.com) organise introductory courses in the sea off Tuscany, from €300 per person for three full days diving