

Yellow pygmy goby, *Lubricogobius exiguus*, with eggs, Anilao, Philippines. Settings: 100mm, 1/200 sec, f/25, ISO 100.

Text and photos by Franco Tulli

Technological advances in photography have enabled photographers to document the extraordinary reproductive lives of tiny creatures found in the underwater world as never before, often leading to scientific discovery and understanding of little-known species. Underwater photographer Franco Tulli takes a closer look.

For biologists, the study of reproductive dynamics is fundamental to the survival of every species and has always been one of the most important aspects to analyse and describe. However, it is also often the most challenging, due to the many difficulties encountered in direct observation. This is true for most living organisms, but even more so for beings that live and reproduce in aquatic habitats, except for the few species that can be observed in captivity in aquariums.

The marine world, and the aquatic world in general, is an environment that is unsuitable for human life. Therefore, several problems must be

addressed and overcome in order to study it. It is only thanks to scuba diving and new, high-definition filming technologies that scientists have been able to begin observing and describing the

sexual habits and reproductive characteristics of many marine creatures.

Thus, photography and filmmaking have not only become a form of visual art but also an extraordinary, fun-

damental tool for scientific research. The development of new techniques and increasingly sophisticated equipment has made it possible to study even the smallest marine creatures,

measuring only a few millimetres.

Finally, we can appreciate the incredible colours and shapes that these small creatures' eggs can take on. In some cases, they are true works

Photography

An Art That Makes the Invisible Visible





Hypselodoris infucata nudibranch with white ribbon of eggs, Anilao, Philippines (above). Settings: 100mm, 1/200 sec, f/22, ISO 100. *Halgerda batangas* nudibranchs mating, Anilao, Philippines (top right). Settings: 100mm, 1/200 sec, f/20, ISO 100.

of art, with perfect Giottesque circles, logarithmic spirals and beautiful concentric spheres in various shades and colours. We have also discovered the incredible ways in which some species incubate their eggs until they hatch.

Benefits of technological advances

The evolution of optical technologies, high-resolution sensors and controlled-spectrum LED lighting has made underwater photography a crucial scientific tool.

- High resolution enables microscopic details, such as reproductive organ struc-

tures and larval interactions, to be captured.

- Long exposure and time-lapse photography are essential for observing nocturnal reproductive behaviour and egg hatching cycles.
- Fluorescence and polarised light techniques have made transparent and biochemical structures, which were difficult to observe with the naked eye, visible.
- Using drones or miniaturised ROVs for underwater micro-photography has made it possible to document behaviour in inaccessible or deep environments without disturbing the organisms.

Documenting reproduction and broods

Nudibranchs. Thanks to these techniques, it has been possible to document the mating ritual and egg-laying behaviour of *Flabellina affinis*, a common Mediterranean nudibranch, with detailed macro photographs showing its eggs forming fascinating translucent spirals. The same goes for its close relative, *Flabellina rubrolineata*, which lives mainly in warm seas and is one of the most beautiful and colourful *Flabellina* species.

The reproductive behaviour of *Halgerda batangas*, a hermaphroditic nudibranch, can be observed, where both part-



Flabellina affinis nudibranchs with eggs on a stem, Civitavecchia, Italy. Settings: 70mm, 1/200 sec, f/22, ISO 200.



ners fertilise each other, and the eggs are arranged in gelatinous spirals or ribbon-like veils, often near or above their prey.

Another species of hermaphroditic nudibranch, the *Hypselodoris infucata*, lays eggs in the shape of a white ribbon, resembling an extraordinary piece of knitting. They are laid in a suitable substrate, such as a tiny fragment of wood, in this case.

Fish. You can also observe the male yellow pygmy goby, *Lubricogobius exiguus*, a tiny fish, preparing a nest in a small cavity and courting the female to lay her eggs. The male then guards

the eggs, fanning them with his fins to keep them oxygenated and protect them from mould and predators.

The eggs of *Plagiotremus rhinorhynchus*, a species of comb-toothed blenny found in the Indo-Pacific region, are bright red. They are laid inside abandoned polychaete worm tubes or in small crevices in coral rocks. Typically, it is the male that guards the nest after laying. He protects the eggs from predators and ensures water exchange (and therefore oxygenation) by moving his fins. During this phase, the male becomes extremely territorial and may attempt to “bite” even

Bluestriped fangblenny, *Plagiotremus rhinorhynchus*, with a brood of eggs lining its den, Bali, Indonesia (above). Settings: 100mm, 1/200 sec, f/13, ISO 100. Large-toothed cardinalfish, *Cheilodipterus macrodon*, with a brood of eggs in its mouth. Anilao, Philippines (top left). Settings: 100mm, 1/200 sec, f/18, ISO 100. Pair of *Flabellina rubrolineata* nudibranchs, Sulawesi, Indonesia (left). Settings: 100mm, 1/160 sec, f/18, ISO 100.



Closeup of the tiny, 5mm hairy shrimp, *Phycocaris simulans*, also known as algae shrimp, with a brood of eggs attached, Anilao, Philippines. Settings: 100mm, 1/200 sec, f/29, ISO 100.

much larger intruders, including divers, using his sabre-like teeth.

The male *Cheilodipterus macronodon*, or large-toothed cardinal fish, certainly has one of the most unusual methods of incubating eggs. Despite its large teeth, the male manages to keep the eggs in its mouth until they hatch, removing them briefly to oxygenate them. However, female cardinalfish have their own concerns: The male is very likely to swallow some eggs by mistake or necessity. To avoid this, females have developed an inge-

nious strategy: They lay “dummy” eggs without a nucleus alongside the real ones. If the male swallows some, many of them will be lifeless.

Crustaceans. The extreme defence of the eggs by the female *Lybia tessellata*, also known as the boxer crab due to the way it wields small sea anemones like boxing gloves, is interesting to observe. (See this issue's cover photo.)

Finally, who could forget *Phycocaris simulans*, a microscopic, highly camouflaged shrimp that is often mistaken for algae or debris? Measuring

only 5mm, it is almost impossible to see with the naked eye, thanks to its great camouflage. It is one of the “ghosts” of the reef, and its eggs, which the female carries under her body, are practically invisible unless observed in photographs taken with powerful macro lenses.

Conclusion

These are just a few examples of what underwater photography and filming allow us to achieve today: making the invisible visible, thrilling the viewer, and documenting a fragile

and extraordinary world that is often ignored because it is hidden on a microscopic scale! ■

Franco Tulli is a widely published, award-winning Italian underwater and nature photographer, writer, adjudicator and brand ambassador. He is a regular columnist for The Huffington Post, and his work has been published by Asian Diver, Asian Geographic, National Geographic USA, Unterwasser, Scuba Diving, Lonely Planet and Mare, featured by Scubashooters and Scubazone, and

exhibited at the United Nations building in New York City. He has received numerous national and international awards for his photography, including the World Shootout, Asian Geographic, Australian Geographic, ADEX China VOO, Siena Awards, Scuba Diving Contest, Oasis Photo Contest, Ocean Geographic, Asferico, Cimasub, FestiSub, PAF Tachjov, World Water Day Photo Contest, Sublimage Festival, Deep Visions, Tokyo International Foto Awards, Galathea, Underwater Photo Marathon and MFPP. For more information, visit: [instagram.com/franco_tulli](https://www.instagram.com/franco_tulli)



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Lens Beyond Ocean 2025 Macro category winner: Yvonne Chok, Malaysia, for *My Bling World*, which shows a tiny Zanzibar whip coral shrimp found in Tulamben, Bali. Prize awarded: 5 days/4 nights for two, sponsored by Silver Reef Dive Resort in Dauin, Philippines.

Lens Beyond Ocean 2026 International Photo & Video Competition Now Accepting Entries

In conjunction with the 20th anniversary of the Malaysia International Dive Expo (MIDE) in 2026, the acclaimed Lens Beyond Ocean (LBO) Underwater Photo & Video Competition returns for its 15th edition.

This international event continues to spotlight exceptional visual storytelling from beneath the sea by underwater imagers from around the world.

Launched in 2011, LBO has developed into a leading international competition for underwater photographers

and videographers, drawing more than 1,000 participants over the years. The 2026 edition marks a significant milestone, with selected winning works exhibited during MIDE 2026, taking place from 5-7 June 2026 at MITEC in Kuala Lumpur. The showcase reflects



LOUISE JEAN-SIGFRIED / VIA LBO PRESS RELEASE

YVONNE CHOK / VIA LBO PRESS RELEASE



two decades of MIDE's dedication to the ocean, as well as its explorers and storytellers.

Categories and prizes

Entrants may submit their work in five categories:

- Macro
- Wide Angle
- Compact Camera
- 3-Minute Video
- Best of Malaysia (open exclusively to Malaysian participants)

Prizes include exclusive dive trips, top-quality dive equipment and high-end camera gear. In addition to prizes, award recipients gain valuable international exposure during MIDE's 20th anniversary celebration.

Sponsorship opportunities

To commemorate this landmark year, companies and organizations are invited to partner with LBO. Sponsors gain prominent brand visibility while contributing prizes to

Malaysia's leading dive show, billed as the one and only "Hottest Dive Expo".

Submission deadline

Submit your best underwater photographs or videos by **5 May 2026**. Register at: lensbeyondocean.com

For further information, email: lbo@mide.com.my. Stay updated via Facebook, Instagram and LinkedIn: @mideexpo. ■

SOURCE: MIDE PRESS RELEASE

Lens Beyond Ocean 2025 Wide-Angle category winner: Louise Jean-Sigfried, Réunion, for *Together*. This photo was taken during the humpback whale season from May to October, when these giant whales mate and give birth in the warm waters off Réunion. Humpbacks are frequently seen in pods of dolphins, in this case, Indo-Pacific bottlenose dolphins. Prize awarded: 4 nights dive vacation for one at Atlantis Puerto Galera or Atlantis Dumaguete in the Philippines.