

# SCUBA News

SCUBA News (ISSN 1476-8011)

Issue 239 – May 2020

<https://www.scubatravel.co.uk>

Welcome to the 20th birthday issue of SCUBA News. We launched in May 2000 with an invitation to submit your favourite dive sites for inclusion in our [top ten list](#). The top ten is still going and updated every year. This year, though, diving has mainly ceased: thank you for continuing to subscribe.

However, some countries are now easing their lockdowns. Which areas might soon be open? Well, the [Nautilus liveaboard](#) is planning to restart its Mexico trips in June, Bali plans to begin reopening in July, Greece hopes to start welcoming tourists by 1 July and the Bahamas are eyeing a possible opening date for commercial travel on or before 1 July. We'll [update information about the opening of diving areas](#) when more details become available.

Keep safe and well.

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## What's New at SCUBA Travel?

### Bahamas: Shark Paradise

Bahamas is one of the best places in the world to dive with sharks - tiger sharks, great hammerheads, bull sharks and oceanic whitetips migrate through the her sea in winter. Reef sharks and others live constantly in the protected waters.



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### Diving Malta, Gozo and Comino

With clear waters and rocky scenery the islands are very good for diving. Indeed, two of her dive sites are amongst the best in Europe: namely the





Blue Hole in Gozo and Cirkewwa in Malta.

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### Red Sea Clownfish, *Amphiprion bicinctus*

The most common clownfish in the Red Sea, hence its name. But it doesn't just live in the Red Sea. You will also find it in the Gulf of Aden and in the Chagos Islands in the Pacific some 3364 km away. But curiously nowhere in between.



*Red Sea Clownfish in Bubble anemone by Tim Nicholson*

The Red Sea Clownfish lives from the shallows down to 30 m, generally in pairs in association with an anemone. This is a classic example of symbiosis - where two different organisms live in close physical association to the advantage of both. The stinging tentacles of the anemone protect the clownfish from predators. The benefit to the anemone is probably down to the fish's swimming within its tentacles and wafting them around, thus increasing the water flow and hence the amount of oxygen available to the anemone. The anemone may also feed on the fish's waste material, plus the fish remove bits of debris from the anemone. There is also evidence that some clownfish species attack butterfly fish, which would otherwise eat the anemone.





*Red Sea Clownfish in Magnificent anemone by Tim Nicholson*

That the clownfish are not worried by the anemone's stinging cells (nematocysts) is down to their mucus coating. When the clownfish larvae settle in the anemone their mucus coat acquires the anemone's chemical signature, which inhibits the nematocysts from firing.



*Clownfish in Djibouti by Tim Nicholson*

This clownfish favours five types of anemone; other species are more selective. Adults are rarely more than 2 m away from their anemone home. When clownfish have been artificially deprived of their anemone, they often dig holes and feed them, defend them and sleep in them much as they would behave with an anemone. Clownfish in an aquarium have been observed bathing in the air bubbles and defending them, perhaps seeking stimulation comparable to that of the tentacles of the anemone.



## *Clownfish by Tim Nicholson*

Clownfish start off male, but if the female dies the dominant male will change into a female. The male-to-female sex-change occurs first in the fish's brain and only later involves the gonads - sometimes after a delay of months or even years.

The female pairs up with a single male, the largest of the males available, to **mate for life**. The fish spawn around the full moon and lay 500 to 1500 eggs on a patch of cleared rock near the anemone home. The parent often rubs the anemone causing the tentacle to extend, which in turn forms a protective canopy for the eggs of the fish. Light pollution, though, can have catastrophic effects on hatching rates resulting in no offspring being born.



*Clownfish by Tim Nicholson*

The male cares for the eggs, driving away intruders. Even divers have been attacked if they get too close. He blows water over the eggs, giving them oxygen-rich water and preventing fungus from growing over them. After around a week the eggs hatch, usually soon after sunset. The larvae then drift in the current for more than a fortnight before seeking their own anemone. A recent study found that the larvae of a similar species, the Omani clownfish, regularly travelled 400 km - the longest distance scientists have been able to track the dispersal of any coral reef fish.



**Larval clownfish can smell their hunters which helps them avoid being eaten as they search for an anemone in which to live. However**

in raised ocean acidity - which will happen if we fail to curb CO2 emissions - they lose their ability to smell predators. Other experiments have shown that they also lose the ability to smell their anemone hosts.



***Clownfish in Heteractis magnifica anemone by Tim Nicholson***

**You can identify this clownfish** from others as it has no white stripe at the base of its tail; the tail is orange and not black or white and of course by its location. Many have blackish backs but some are pure orange. They grow to 14 cm long.



Class: Actinopterygii > Order: Perciformes > Family: Pomacentridae >  
Subfamily: Amphiprioninae

### **Further Reading and References**

[Ocean of Life: How Our Seas are Changing](#) by Callum Roberts. Allen Lane , 2012 400pp. 1-8461439-42

[Male-to-female sex change happens first in the brain, in clownfish at least](#), SCUBA News 2019.

[Artificial light at night causes reproductive failure in clownfish](#), Biology Letters 2019.

[Finding Nemo is real: Clownfish make epic sea journeys](#), New Scientist 17 September 2014.

[Defense of Host Actinians by Anemonefishes](#) John Godwin and Daphne G. Fautin. *Copeia* Vol. 1992, No. 3 (Aug. 18, 1992), pp. 902-908

## Diving News From Around the World

Our round up of the best underwater news stories of the past month. For breaking news see our [Twitter page](#) or [RSS feed](#)



### [Life Under Water Challenge photography contest is now open](#)

A new photography contest has launched celebrating marine biodiversity in honour of World Environment Day and World Oceans Day.



### [New Research Suggests Turtles Build decoy Nests](#)

Turtle eggs buried on beaches are vulnerable to attacks from predators that want to dig the eggs up and eat them. Female turtles have been seen using their flippers to move sand around nesting areas after laying eggs. No one is sure exactly why turtles do this, but scientists have previously suggested the turtles are disguising the eggs' location. A new paper suggests the turtles are actually creating fake nests to trick predators.



### [DNA detective work reveals where in the ocean shark fins came from](#)

A team of international researchers developed a method of using DNA analysis to trace the origins of shark fins, and to determine if vulnerable and endangered species were being trafficked.



### [With Seas Empty Due to Coronavirus Crisis, Endangered Sharks Spotted Off Israel's Mediterranean Coast](#)

Israel's coast has become a haven for an endangered shark species that has disappeared from most of the rest of the Mediterranean Sea. Researchers spotted dozens of sandbar sharks near Ashdod last week.



### [What's Bad for Bees Could Be Bad for Marine Life, Too](#)

Preliminary research shows that neonicotinoids hampers arthropods in the ocean. Banned in the EU they are common in the USA and Canada.



### [How climate killed corals](#)

A squad of climate-related factors is responsible for the massive Australian coral bleaching event



of 2016. If we're counting culprits: it's two by sea, one by land.



### **Measuring whales with drones to find out if they're fat enough to breed**

Drones are relatively cheap, accessible and easy to use.



### **Farewell Jack Randall**

Jack Randall, who described hundreds of marine species, has died aged 95.

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