

# **NZ Dolphin Underwater & Adventure Club Newsletter March 2021**

**Club Meeting: Wed 10<sup>th</sup> March 2021**

**Club Rooms : 7:00pm**

**Guest speaker: 'The Shipwreck – The Tragedy of the Boyd' & Chris Nipper on wrecks**

**[www.dolphinunderwater.co.nz](http://www.dolphinunderwater.co.nz)**



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**Club Contacts  
Phone numbers & emails  
Committee listing inside**

## COMMITTEE MEMBERS: 2020/2021

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### Life & Honorary Members

Barry Barnes – Life	Peter & Margaret Howard – Life	Brian Horton – Life
Reg Lawson - Life	Roberto Tonei – Life	Dave Quinlan – Life
Graham Thumah – Honorary	Tony & Jenny Enderby - Honorary	Eileen Slark – Honorary

**Cover Page Photo:– Pupuke clean-up day crew.**

### What's on our coming agenda?

An update with things coming up including our first Dive Club Meeting for 2021. We have a few new Members coming along, please make them feel welcome. Mark the following dates on your calendar. There will be more events and Margaret will forward them out to club members as she is notified of them.

As soon as the borders open we will be re-organising our Fiji trip. Let's hope we don't have to wait until 2022. I will let you know when things are in the pipeline. There is also an overseas trip in 2022 to Sorong on a live aboard in Western Indonesia, details below.

**10<sup>th</sup> March – Wednesday – 7.00pm – Dive Club Meeting - Club Rooms – Northcote Road Extension –** COVID Level 2 the Meeting will go ahead. 7pm start seems to suit most, let me know your preference. A social evening with a drink and supper while we view *'The Shipwreck – The Tragedy of the Boyd'*. Chris Nipper will be along to give a talk on some of his adventures diving ship wrecks around NZ.

**13<sup>th</sup> March – Saturday – 12noon – 3pm - Sir Peter Blake Marine Education and Recreation Centre - "Sea" MERC Day!** - Annual Seaweeek Family Event - There will be a range of ocean activities on offer dependent on conditions. There's a chance you could have a go at sailing, kayaking, paddle boarding or just come have a look at the educational displays and enjoy the beautiful facility by the sea. Bring your togs & a towel! Donations welcome – further details on Facebook <https://www.facebook.com/events/229441645411048>

**13<sup>th</sup> March – Saturday – Snorkel Goat Island** with Experiencing Marine Reserves – from 10:00 am to 3:00 pm come along as a volunteer or just to join the group. Explore the waters of Goat Island by snorkel. Find huge snapper, silver drummer and elusive crayfish. Meet on the grassed area on the way up to the Goat Island Marine Discovery Centre. Please park in the top carpark and walk down. If you want to dive with the new group *'The Goats'* after the EMR event, bring your dive gear.

**14<sup>th</sup> March – Sunday – Snorkel Takapuna Reef -** with Experiencing Marine Reserves – Explore the waters of Takapuna by snorkel, north of the boat ramp.. Find spotties, parore, goatfish, maybe a small snapper and nudibranchs. Takapuna Boat Ramp from 9am – 2pm, End of The Promenade Rd, Takapuna. If you volunteer for both Goat Island and Takapuna there is a free camp site at Takapuna Holiday Park on Saturday night.

**20<sup>th</sup> March – Saturday - Snorkel Kai Iwi Lakes with Experiencing Marine Reserves** – Camping accommodation and night snorkel if you travel up on Friday night. I will forward details as soon as they are available to book for this event. Check out the website <https://www.emr.org.nz/index.php/events/snorkel-days> for other snorkel days around the Country.

**20<sup>th</sup> – 21st March - Poor Knights Live Aboard – with Waiheke Dive and Snorkel** – Diving with Northland Dive – the boat ‘Sun Spy’ - \$560 . To book <https://www.waihekedive.com/products/the-poor-knights-liveaboard?fbclid=IwAR0ay1H42h4zN2uRSe2PhjXEL47eYpJk5jOGHBe8OGTiOkoIB1tzqcR1RPI> (This trip is full) phone Adam on 09-217 4892 for further details and availability on other trips.

**10<sup>th</sup> April – Saturday – Snorkel Hen and Chicken Islands** with Experiencing Marine Reserves – further details to come

**15<sup>th</sup> May – Saturday – Snorkel Poor Knight Islands** with Experiencing Marine Reserves – further details to come..

**You will need to contact the shops**

**Upcoming Trips with Performance Dive NZ you may be interested in 2020 - Ph. 489 7782**

Sat 13<sup>th</sup> March - 9:00am – Local boat dive departing Takapuna or Omaha

Sun 14<sup>th</sup> March – 8:15am – Poor Knights Is 2 x dives departing Tutukaka Marina

Sun 21<sup>st</sup> March & Sun 28<sup>th</sup> March – 9:00am– Local boat dive departing Takapuna or Omaha

**Upcoming Trips with Global Dive you may be interested in 2020 - Ph. 920 5200.**

Sat 13<sup>th</sup> March – Scuba Saturday Leigh Coast

Sat 20<sup>th</sup>- Sun 21<sup>st</sup> March – Bay of Islands Weekend

Sat 10<sup>th</sup> April – Poor knights Is day trip w/Yukon Dive

Sat 17<sup>th</sup> – 18<sup>th</sup> April – Poor knights Is 2 day Liveaboard trip w/Northland Dive

Sat 24<sup>th</sup>- Mon 26<sup>th</sup> April – Bay of Islands 3 day trip w/Northland Dive

**Other events & suggestions please contact a committee member or organise it yourself & get the club to make up your numbers. i.e. – Dives, trips NZ & O’Seas, Events, Outings, Tramps, Dinners, Movies, whatever social event tickles your fancy.**

**Our Club’s Trip Rules (Organiser’s rules apply for overseas trips)**

- A. Bookings allowed on all trips. *Two trips & club membership is a must.*
- B. **A deposit or full payment to be made at time of booking.**
- C. Full payment **MUST** be paid at least two weeks before departure date.
- D. Trip Organiser to handle trip & bookings, & Treasurer to handle finances. Cancellations due to weather will be refunded in full, or transferred to another trip.
- E. Members cancelling for any reason will lose full monies unless they find a replacement for their position on the trip.
- F. The trips Organiser will determine if there are enough people to run a trip & if not will notify cancellation two weeks prior to departure. **Non - financial members will be charged an extra \$10 on trips.**

**Membership: Single – \$40 Family - \$50.00**

see Margaret or Trish next meeting or do it online.

**Club’s Internet bank account is 06 0122 0074227 00 & don’t forget to put in your name**

**Club Membership also includes Affiliation to the New Zealand Underwater Association**

## **A Sea of Garbage: Ocean Floor Landfills**

TOPICS: [Ecology](#) [Marine Biology](#) [Oceanography](#) [Pollution](#) [Popular University of Barcelona](#)

By University of Barcelona February 21, 2021



Marine litter ten years after the great 2011 tsunami in Japan. Credit: JAMSTEC [De S. Chiba]

### [The Long Journey of Litter to the Seafloor](#)

The Messina Strait, a submarine bridge separating the island of Sicily from the Italian Peninsula, is the area with the largest marine litter density worldwide — more than a million objects per square kilometer in some parts — as reported in a new review paper published in the journal *Environmental Research Letters*.

Also, over the next thirty years, the volume of rubbish in the sea could surpass three billion metric tons (Mt), as cited in the study, whose corresponding authors are the experts Miquel Canals, from the Faculty of Earth Sciences of the University of Barcelona, and Georg Hanke from the European Commission's Joint Research Centre (JRC), where scientists carry out research in order to provide independent scientific advice and support to EU policies.

Led by the University of Barcelona, this paper gathers the results of the scientific meeting on macrolitter that took place in May 2018, promoted by the European Commission's Joint Research Centre (JRC) and the German Alfred Wegener Institute (AWI). A team of twenty-five scientists from across the world treated issues such as data needs, methodologies, harmonization, and needs for further development.

The study provides a synthesis of current knowledge on human-sourced materials lying on the seafloor and goes through the methodologies to improve future studies, “highlighting the need to understand litter occurrence, distribution, and quantities in order to provide insight for appropriate (policy) measures,” notes Georg Hanke, who adds that “the paper also shows the need to employ new methodologies — i.e. imaging approaches — to cover areas that had not been considered previously, and provides tools to enable quantitative assessments such as those under the EU Marine Strategy Framework Directive (MSFD).”



A litter hotspot at 415 m depth in the Strait of Messina, Mediterranean Sea. Credit: M. Pierdomenico D. Casalbore and F. Chiocci/National Research Council/La Sapienza University in Rome

Among other signatories of the article are experts from the University of Açores (Portugal), Alfred Wegener Institute (Germany), Utrecht University (Netherlands), the Norwegian Institute of Marine Research (Norway), the Secretariat of the Barcelona Convention on the protection of the Mediterranean Sea, Monterey Bay

Aquarium Research Institute (MBARI, California, United States), the Institute for Global Change of the Japan Agency for Marine Earth Science and Technology Research (JAMSTEC, Japan), IFREMER (France) and Oxford University (United Kingdom), among other institutions.

### When litter arrives before humans do

The ocean floor is increasingly accumulating marine litter. Whereas the largest seafloor litter hotspots — likely in the deep sea — are still to be found, plastics have already been found in the deepest point on Earth, the Mariana Trench — at a depth of 10,900 meters — in the Pacific Ocean. In some cases, litter concentrations reach densities comparable to large landfills, experts warn.

A plastic bag on the bottom of Calypso Deep, at 5109 m, the deepest place in the Mediterranean Sea. Credit: Caladan Oceanic

Despite the scientific community efforts, “the extent of marine litter on our seas and oceans is not yet fully known. The marine regions most affected by this problem are in landlocked and semi-enclosed seas, coastal bottoms, marine areas under the influence of large river mouths, and places with high fishing activity, even far from land,” says Professor Miquel Canals, head of the Consolidated Research Group on Marine Geosciences at UB.

Canals highlights that “the level of waste treatment in coastal countries is decisive: the less treatment — or the more deficient — the more waste reaching the ocean, and therefore, the ocean floor, which is a problem that affects specially third world countries.”



### The long journey of litter to seafloor

Plastics, fishing gears, metal, glass, ceramics, textiles and paper are the most abundant materials in seafloor litter hotspots. Geomorphological features, the submarine relief and the nature of the seafloor determine the distribution of litter items on the seabed. Ocean dynamics, — that is, processes such as dense water cascades, ocean currents and storms — ease the transport and dispersal of litter across the ocean, from coasts to abyssal plains, thousands of meters deep. However, these factors do not occur in all ocean ecosystems and also vary over time and in intensity where they take place.

Due to a gravitational effect, light waste is usually transported along and into marine regions where dense currents flow — i.e. submarine canyons and other submarine valleys — and where flow lines concentrate, such as nearby large submarine reliefs. Finally, materials transported by ocean dynamics accumulate in depressions and quiet marine areas.

The properties of materials dumped in the marine environment also affect their dispersion and accumulation on the ocean floor. It is estimated that 62% of the dirt accumulated on seabeds is made of plastics, “which is relatively light and easy to transport over long distances. On the other hand, heavy objects such as barrels, cables or nets are usually left at the point where they are initially fell or got entangled,” says Canals.

### **Litter drowns marine life**

Litter is a new threat to marine biodiversity. It is already known that nearly 700 marine species, 17% of which are on the IUCN red list, have been affected by this problem in several ways. Seabed entangled fishing gears can cause serious ecological impacts for decades because of ghost fishing. The slow decomposition of fishing nets — usually made of high-strength polymers — aggravates the detrimental effects of this type of waste on the marine ecosystem.

Other human activities — dredging, trawling, etc. — trigger secondary dispersal by remobilization and fragmentation of seafloor litter. In addition, seabed waste concentrations can easily trap other objects, thus generating larger and larger litter accumulations. It is paradoxical that waste may increase the heterogeneity of the substrate, which can benefit some organisms. Some xenobiotic compounds — pesticides, herbicides, pharmaceuticals, heavy metals, radioactive substances, etc. — associated to litter are highly resistant to degradation and endanger marine life. However, the extent of the effects of litter on the habitats of the vast expanses of the deep ocean still is a chapter to be written by the scientific community.

“In the Mediterranean Sea,” says Miquel Canals, “seafloor marine litter already is a serious ecological problem. In some places of the Catalan coast, there are large accumulations of waste. When there are strong storms, such as Gloria, in January 2020, waves throw this waste on the beach. Some beaches in the country were literally paved with rubbish, thus showing to which extent the coastal seabed is littered. There are also noticeable concentrations of waste in some submarine canyons outside Catalonia.”

### **Robotic technology for large depths**

Beach litter and floating garbage can be identified and monitored by simple, low-cost methods. In contrast, the study of seafloor litter is a technological challenge, the complexity of which increases with water depth and remoteness of the marine area to be investigated. The study reviews both methodologies allowing physical sampling of seafloor waste and in situ observations.

New technologies have enabled major advances in the study of the environmental status of the seabed worldwide. The use of unmanned remotely operated vehicles (ROVs) is critical for in situ observation, despite the limitations for physical sampling. Classic technologies such as bottom trawling also have limitations, as they do not allow determining the precise location of the bottom-sampled objects. “Future methodologies should aim at easing the comparison of scientific data from different places. It should also be easier for observation and sampling efforts to generate consistent data sets, something that we are still far from achieving,” says Canals.

### **Avoiding excess waste generation to take care of the planet**

Knowledge and data about seafloor litter are necessary for the implementation of the Marine Strategy Framework Directive (MSFD) and other international policy frameworks, including global agreements. The publication shows how research on seafloor macrolitter can inform these international protection and conservation frameworks to prioritize efforts and measures against marine litter and its deleterious impacts.

The authors warn about the need to promote specific policies to minimize such a serious environmental problem. The study also addresses the debate on the removal of litter from the seabed, a management option that should be safe and efficient. In relation to this, the Joint Research Centre (JRC) is co-chairing the MSFD Technical Group on Marine Litter, which provides an information exchange and discussion platform to provide agreed guidance for MSFD implementation.

“Marine litter has reached the most remote places in the ocean, even the least (or never) frequented by our species and not yet mapped by science,” says Miquel Canals. “In order to correct something bad, we must attack its cause. And the cause of the accumulation of waste on the coasts, seas and oceans, and all over the planet, is the excess

waste generation and spillage in the environment, and poor or insufficient management practices. As humans, we have little or no care at all to prevent litter from accumulating everywhere.”

Reference: “The quest for seafloor macrolitter: a critical review of background knowledge, current methods and future prospects” by Miquel Canals, Christopher K Pham, Melanie Bergmann, Lars Gutow, Georg Hanke, Erik van Sebille, Michela Angiolillo, Lene Buhl-Mortensen, Alessando Cau, Christos Ioakeimidis, Ulrike Kammann, Lonny Lundsten, George Papatheodorou, Autun Purser, Anna Sanchez-Vidal, Marcus Schulz, Matteo Vinci, Sanae Chiba, François Galgani, Daniel Langenkämper, Tiia Möller, Tim W Nattkemper, Marta Ruiz, Sanna Suikkanen, Lucy Woodall, Elias Fakiris, Maria Eugenia Molina Jack and Alessandra Giorgetti, 19 January 2021, *Environmental Research Letters*.

[DOI: 10.1088/1748-9326/abc6d4](https://doi.org/10.1088/1748-9326/abc6d4)

## **Email from NZUA for you all**

Hi Denis and Margaret

Hope things are good with you. It would be great if you could encourage your members to complete this quiz and it's a bit of fun too.

Copy and paste the yellow link

The Survive the Dive certificate initiative is now live here: <https://www.certificate.nzunderwater.org.nz/>

We have also rolled out multilingual versions in Te Reo, Hindi, Samoan, Tongan and Chinese

Hope you liked the recent Dive Magazine?

Regards Andrea Macfarlane - Executive Officer NZUA



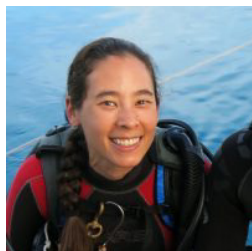
Who conned who to go for a ride Margaret? (Clean-up day).

**An interesting web site.**

We're over eating these 4 types of fish — and it's killing our oceans.

Watch the full talk here: <http://t.ted.com/1GfV557>

## When to Call Off a Dive and How to Do It



[Megan Denny](#)

24 August, 2020

One of the most difficult (but important) things you may ever do as a diver is call off a dive. During the [Open Water Diver course](#)® we all learned: anyone can end a dive for any reason.

Simple, right? Unfortunately, some divers overthink the situation. They worry their diving companions will be disappointed, or cling to the irrational idea that being uncomfortable makes them tough.

The reality is:

- If you're cold, bored, struggling or wondering "is this a good idea?" – there's a good chance your buddy feels the same way
- There's never a good reason to put your health and safety at risk
- Any diver that reacts negatively to calling off a dive – is not a good dive buddy

Here are a few reasons you may choose to end a dive, or not go diving in the first place. This isn't a comprehensive list, just some of the most common.

### #1 You're Not Feeling Well – Mentally or Physically

Diving is supposed to be fun and relaxing. If you don't feel mentally or physically capable of being in an environment that isn't designed for humans – that's okay. If you're worried your dive buddy will feel let down, imagine how horrible they would feel if you had an accident. Don't put yourself or your buddy at risk; don't dive if you don't feel like it.

### #2 You Discover a Gear Problem

If you spot a bubble leak, crack, or other equipment issue, fix the problem before you descend. If you're already diving, make a safe and controlled ascent. Don't try to solve problems underwater. Remember: scuba equipment is life support equipment.

A small gear issue can quickly escalate into a life-threatening situation. If you encounter a diver who feels differently, remind them equipment problems are one of the [top three triggers](#) of diving fatalities according to Divers Alert Network (DAN).

### #3 You Can't Clear Your Ears

Ears. Ugh. They're fine one day and plugged the next. If you can't equalize, or if your ears start giving you problems – end the dive slowly and safely. Don't risk an injury that will take you away from diving for weeks or even months, or the dreaded reverse-block.

Many divers who wouldn't even think of pushing depth limits choose to push the limits of their bodies. As a result, [nearly half of all diving injuries are ear-related](#).

If you have trouble equalizing, you're not alone. Check out these tips on [ear equalization and ear care for divers](#).





## #4 The Dive is Beyond the Limits of Your Experience

Don't let someone talk you into a dive you're not comfortable with. Whether it's a deep dive, wreck dive, or even a familiar site where conditions are not ideal, if something inside is telling you don't dive – don't dive.

Underwater, if your buddy heads into a swim-through and you're not comfortable following, tug on their fin and [signal](#) no. A good buddy will respect your wishes. If the dive guide has led the group into an area or depth where you don't want to follow, signal your buddy that you don't want to follow and want to stick together and stay shallow.

## #5 You're Getting Cold

Even in warm, tropical water, divers can experience hypothermia, because 27°C/80°F is still a lot colder than 37°C/98.6°F. Water conducts heat away from the body much faster than air, and [hypothermia](#) sets in when your body temperature drops only a few degrees (to 35°C/95°F).

Don't wait until you're shivering to call off a dive. If you're feeling fatigued or mentally impaired, signal to your buddy that it's time to ascend (they're probably cold too!).

How good is your thermal stress knowledge?

[Try this quiz from our friends at DAN.](https://www.diversalertnetwork.org/quiz/thermal_stress_quiz) [https://www.diversalertnetwork.org/quiz/thermal\\_stress\\_quiz](https://www.diversalertnetwork.org/quiz/thermal_stress_quiz)

## Bad Reasons to Go Diving or Stay Underwater

- We spent a lot of time/money to get here.
- My dive buddy will be upset.
- No one else seems to be cold.
- I haven't found the (animal name) I came here to see.
- My ears will be okay if we don't go any deeper.
- Everyone else has plenty of air.

*Anyone can call the dive at any time.* Listen to your instincts and don't dive with anyone who doesn't agree to this fundamental safety mantra. There are plenty of other divers in the sea!

Thanks to PADI for this important article that's worth repeating, plus the following con-current one. Editor

## Scuba Diving is one of the Best Activities to do Post-Lockdown

[Guest Blogger](#) 19 February, 2021.

We believe that scuba diving is one of the most ideal activities you can do during the COVID-19 pandemic ([not to mention the mental health benefits](#)). Here's why:

### **You always wear a mask.**

It is a mandatory requirement to use a mask and regulator when scuba diving and, although it is made of a different material than the one you are used to wearing these days, your gear covers your nose and mouth the whole time.

### **Scuba diving keeps you physically fit.**

The more we dive and swim, the more our muscles gain strength and flexibility. Diving is a [physically demanding activity that helps you stay fit](#) and burn calories. You need energy to put on the suit, carry the tanks, jump into the water, kick your fins and swim amidst the underwater world. As we move through the water, our muscles tend to work harder than they do if we were on the surface. This is due to the resistance of the water, its denser mass, and the currents that can add even more resistance to your movements.



## You can learn in isolation.

If you are interested in taking any of your PADI courses, but are concerned about putting your health at risk while being in class with other people, you can [purchase eLearning programs](#) and learn from the safety of your home.

## Your mental health improves.

Without a doubt, staying locked up for months can have a negative effect on our emotions and mental health. Scuba diving is considered “the best therapy” by many, for when you submerge into the sea, your problems and concerns are left on the surface and the only thing that matters is the beauty of the present moment. There are no words that can explain how magical it is to be able to breathe underwater, explore the ocean and meet its marine life. Diving has even helped many people cope with [depression and anxiety](#).

## You surround yourself with typically health-conscious people.

You need to be in good physical condition to dive. Any responsible diver who may have symptoms of coronavirus or any other similar illness such as cough, flu, or headache will know that their body is not in good physical condition to be underwater. So, for personal safety and regardless of this COVID era we are living in, it is better stay home and avoid the dive.

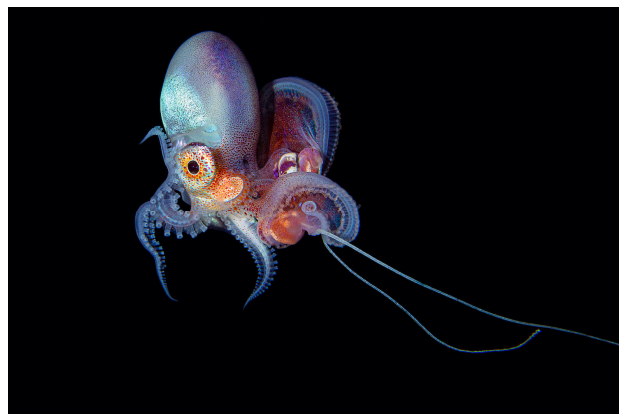
**It's fun!** Even without the COVID pandemic, diving is always a fun activity. It is a way of exploring this blue planet that is so diverse with life and full of energy. Above all, it is a face-to-face encounter with nature where you will share extraordinary moments with marine life. Lastly, being happy can have important benefits for both your immune system and your overall health, and I haven't met anyone who did not come out of the water with a HUGE smile! So, what are you waiting for? (*This is of course a bit of a tongue in cheek article. But remember the local safety at sea rules which may forbid it. Editor*).

## Facts About Octopuses That Prove They're Aliens

[Guest Blogger](#) 18 February, 2021 *Written by Jeanette Smith*

Staring into the depths and beauty of our water-planet, many ocean lovers may not realize that the answer to “where did the octopus come from?” might lie in the exact opposite direction of where we're looking. While Darwinism would have you believe that life was created from the primordial soup, another theory—panspermia—maintains the belief that certain aspects of life and evolution may have developed due to “seeds” of matter that came to Earth from other planets.

Before you laugh, just keep in mind that scientists estimate there are more than 100 billion planets within the Milky Way galaxy and a possible 100 billion galaxies in the universe. That's  $10^{22}$  planets that could potentially hold life. In 2018, a group of 33 scientists [published a paper](#) purporting that the ancestors of the modern-day octopus arrived on Earth from one of these planet's “seeds.” Here's the evidence they presented for why [these amazing marine animals](#) actually came from space.



## Accelerated Evolution

According to evolution, animals with the most adaptive characteristics will likely survive and reproduce more than disadvantaged animals, therefore passing down these traits which change and refine over time, creating evolution as we know it. But the octopus is a little different. The main characteristics we associate with octopuses—large, non-centralized brain, camouflage abilities and flexible bodies—all appeared on the evolutionary scene quite suddenly during the Cambrian Explosion. Before then, the octopus' ancestors looked very different; most notably, they were shelled.

One of the earliest fossils from this era, called *Nectocaris*, shows a rather sudden divergence from this shelled creature to a non-shelled one. While scientists have been debating for the last 30 years what this fossil really means for cephalopods, it does cast doubt on the idea that they evolved like other animals.

## Smartest of the Invertebrates

In addition to how they potentially evolved (or not), the modern octopus' traits set it apart from any other animal. Octopuses have one centralized brain and the rest is distributed through each arm. In terms of brain-to-body ratio (a factor helpful in determining intelligence) the octopus has the largest ratio of any invertebrate.

This intelligence goes far beyond simply moving through mazes or opening jars. Octopuses are some of the only invertebrates to use tools. They can wield external weapons, such as the way the blanket octopus carries tentacles from the Portuguese man o' war. And they hunt collaboratively with other species, sometimes having to [give their fish partners a good punch](#) to keep them in line.

## Loads of Personality

Not only are they smart, they've got personality and exhibit eerily human traits. Octopuses are often mischievous, such as [this octopus](#) that climbed out of its tank to give visitors a more personal greeting. There's also Inky the octopus, who infamously escaped the National Aquarium of New Zealand in the dead of night by opening his own tank and slipping through a drain in the floor which led to the ocean. Other octopuses have been reported spitting jets of water to short out aquarium lights that were bothering them and even sneaking into other tanks for a midnight snack.

## Complicated Biology

Perhaps the most alien part of an octopus is something we can't even see. In their efforts to map the genomes of the entire animal kingdom, scientists have discovered some interesting facts. For one, the octopus has 33,000 protein-coding genes. As a comparison, humans have around 20,000. But despite its complexity (and therefore higher probability of mutation), octopus DNA has changed very little compared to the speed of change in other animals.



If DNA is what sets the instructions for life, RNA is what receives those messages and then makes things happen. Octopuses can bypass the need for genetic mutations and consciously [give their RNA new instructions](#) to alter their physiology pretty much immediately. While other species abandoned this ability hundreds of millions of years ago due to its overall detrimental effects, it seems this method is working out pretty well for the octopus.

## Cosmic Powers

In addition to their intelligence, personalities, and complex biology, some octopuses seem to exhibit other-worldly powers. Between 2008 and 2010, Paul the octopus was regularly asked to pick the winners of FIFA games. Out of 14 predictions, Paul was correct 12 times, an 85.7% accuracy rate.

Hollywood likes to jump on board with the space-octopus theory as well. Octopus-like aliens have been portrayed in movies such as *Arrival* and *Men in Black*. Even the recent documentary *My Octopus Teacher* draws a comparison between octopuses and the cosmic world.

## So, Are Octopuses Aliens?

Despite all these amazing facts, it's not truly likely they came from outer space. But the history of science is littered with rejected theories later proven true. (We're looking at you Galileo.) And after all, many divers and ocean lovers who have encountered an octopus will tell you the experience was other-worldly. Aliens or not, we should all show our appreciation for the octopus. **PS. *Quentin Bennett & I caught one of the first octopi for the National Aquarium in Napier, but I don't remember if he was Inky the escapologist. Editor.***

# PERFORMANCE NZ Ltd Diver

John Haynes

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Email: sales@performance-diver.co.nz  
Website: www.performance-diver.co.nz

## North Shore Scuba Centre

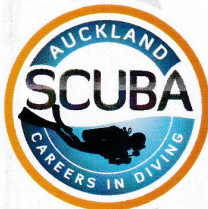


Air Technology Limited  
HIGH PRESSURE COMPRESSOR SPECIALISTS

### HASAN SOYKAN

Dive Shop Manager

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Stay Safe All - remember the rules & where you are in NZ, they vary.

PS: Anyone got a recent dive report/story to tell? Please forward to me. Denis