

THE INSIDER'S GUIDE TO WILDLIFE TRAVEL & CONSERVATION

# naturetripperr



# GIANTS OF THE GALAPAGOS

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## COVER PHOTO



Diving with whale sharks, Darwin Arch, Galapagos.  
Photo by Simon J Pierce

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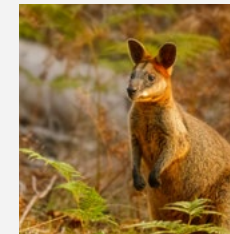


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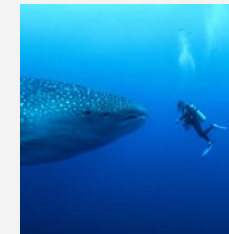
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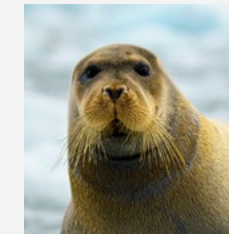
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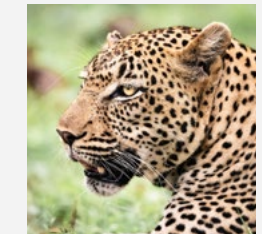
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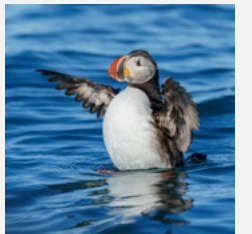
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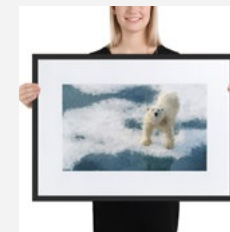
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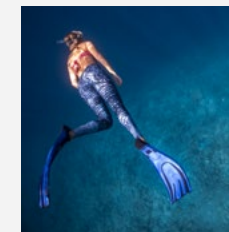
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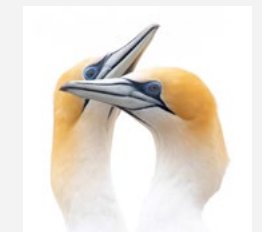
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## WILDLIFE EMERGENCY IN AUSTRALIA

**LIKE MUCH OF THE WORLD, WE'VE BEEN HORRIFIED BY THE BUSHFIRES THAT HAVE DEVASTATED MUCH OF AUSTRALIA OVER THE PAST MONTHS.** Around a billion native animals are estimated to have been killed, and that's not to mention the fires' impact on plants and forests. Recent rains have led to a brief respite in some of the affected areas, but inevitably there will be more fires to come. The remaining, and recovering, habitats need to be properly conserved to help threatened species live through this existential threat. Some species have been particularly badly hurt, and need special help. I'm lucky enough to know a few knowledgeable Australian conservationists, and one of them – Jannico Kelk, who we've also featured in this issue for his amazing photography – has created a great list of organizations that need support. You can view that resource on his facebook by clicking [here](#). **SJP**

■



Swamp wallaby  
*Arakwal National Park, New South Wales*



A large whale shark with a distinctive spotted pattern on its head and back swims from left to right in the foreground. In the background, a scuba diver is visible, providing a sense of scale. The water is a deep, clear blue.

# GIANTS

OF THE GALAPAGOS



Jonathan R Green attaching a tag to a whale shark  
Darwin Island, Galapagos



**T**HE GALAPAGOS ISLANDS off Ecuador are famous for the weird and wonderful land animals, such as giant tortoises and finches, that call the archipelago home.

Underwater, things are just as interesting. The Galapagos is one of the best scuba diving destinations on the planet.

Whale sharks, the world's largest fish, are one of the biggest draws for ocean enthusiasts. The Galapagos is one of the few places where they are regularly seen by divers, and it's the best location to see truly gigantic adult whale sharks.

I've been a whale shark scientist since 2005, and I've been working as a collaborator with the Galapagos Whale Shark Project since its formal inception a few years ago. I've joined whale shark research expeditions in the Galapagos each year since 2015. Aside from these scientific trips, which focus on Darwin Island, I've also hosted several liveaboard dive trips around the archipelago.

Given this experience, I get asked a lot of questions about diving with whale sharks in the Galapagos. Hopefully I can answer a few of them here!





Adult whale sharks crossing paths  
Darwin Island, Galapagos





### WHERE'S THE BEST PLACE TO SEE WHALE SHARKS IN GALAPAGOS?

Darwin Arch, just off Darwin Island, is the place where whale sharks are most consistently seen in the archipelago.

While they can dive down into deep cold water, whale sharks typically prefer surface temperatures over 21°C. (As do I.) The northernmost islands, Darwin and Wolf, are bathed in the tropical Panama Current that comes from the northeast. The central and southern islands are more exposed to the cool upwelled waters that form the Humboldt and Cromwell currents from the South American continent. Brrrr.

### WHY IS DARWIN SPECIAL FOR WHALE SHARKS?

Uniquely, Darwin hosts seasonal visits from really big whale sharks. The majority of the whale sharks that pass by Darwin Arch are adult females measuring an average of 10-12m (~32-40 ft) in length.

You're unlikely to see larger whale sharks – or for that matter, larger sharks of any species – elsewhere in the world. That's why Darwin is special: bus-sized sharks!



Darwin Is

Wolf Rock

Santa Cruz

San Cristobal

# GALAPAGOS ISLANDS

## HOW DO YOU GET TO DARWIN ARCH?

Darwin is over 300 km north of Puerto Ayora (the main town in Galapagos), located on the island of Santa Cruz. Darwin is only accessible from multi-day scuba diving liveboards. These depart from Santa Cruz or San Cristobal islands, and have week-long itineraries that are set by the Galapagos National Park administration.

Certain liveboard itineraries spend a slightly longer time at Darwin – 1.5 days (six dives) rather than one day (four dives). If you're highly focused on seeing whale sharks it'd certainly be worth considering booking on one of these trips, as conditions at Darwin can vary a lot day-to-day, and even dive to dive.

That said, while you maximize whale shark and hammerhead time by spending more time at

Darwin (and Wolf Island, which is on the way), you do skip some other fantastic sites in other parts of the archipelago. Fortunately, it's easy to organize a few days of wildlife-watching on land before or after the dive trip.

## WHEN'S THE BEST TIME TO SEE WHALE SHARKS?

"Whale shark season" in the Galapagos is between June and October, with peak sightings from around July to September. However, it's important to note that conditions are highly variable at Darwin year-round. No guaranteed sightings here I'm afraid.

CONTINENTAL  
ECUADOR





Aaron Morgan Jupp and friend  
Darwin Island, Galapagos





### WHY ARE THE WHALE SHARKS AT DARWIN ISLAND ANYWAY?

Whale sharks normally spend less than a day at Darwin Island. We've never seen them feeding, and there's no obvious socializing between the sharks either.

I suspect the whale sharks use Darwin Arch as a navigational waypoint. Historical volcanic eruptions at Darwin Island have created concentric rings of magnetically polarised rock on the seafloor, providing a detailed relief map for animals, if they have the right equipment to read it. Some sharks can detect the Earth's magnetic field. Their attraction to this area indicates that whale sharks do too.

We've deployed satellite-linked tags on quite a few sharks from Darwin now. Once they leave Galapagos, many of the sharks swim out into the Pacific Ocean, far from any landmass. There's a long productive zone where cooler waters from the Peruvian coast meet warm tropical waters above the equator and, based on our tracking data, the whale sharks are likely to be feeding out there. The Arch might be a thoroughfare to that offshore habitat.

Dr Rui Matsumoto using an underwater ultrasound unit  
Darwin Island, Galapagos

We did think that a lot of the female sharks are pregnant (most have a very large "bump" behind the pelvic fins). Our 2018 expedition used an underwater ultrasound unit to test this, and we also collected blood samples from the free-swimming sharks. The results confirmed that the sharks are adults, but at least at that time of year (September) they may not be pregnant after all. That study is ongoing!

### IS DARWIN ISLAND GOOD FOR OTHER ANIMALS TOO?

Sure is! Darwin is the best dive site I've ever visited. Aside from the gigantic whale sharks, there are always hammerhead sharks swimming around, and you've got an excellent chance of seeing lots of other sharks (particularly Galapagos sharks, silky sharks, and blacktip sharks) as well as sea turtles, yellowfin tuna, bottlenose dolphins, and huge schools of fish. It's one of those places where almost anything can turn up, and often does.





Scalloped hammerhead sharks  
Darwin Island, Galapagos



**WHAT ARE THE DIVES LIKE?**

You'll normally do four dives per full day at Darwin, one before breakfast, and then three more 2-3 hours apart until 4 pm or so. You'll be diving out of small inflatable boats, doing a negative entry (i.e. rolling backwards with a fully deflated BCD), and descending quickly. Group size is typically 7-8 divers, with an experienced guide leading the dive.

Hopefully, the water temperature will be between 24-26°C during whale shark season... but if cooler currents are prevailing, which does happen quite regularly, it can drop to around 20°C. Eep. I wear a 5 mm wetsuit, with a hooded vest for additional warmth. Be aware that you might get cooler waters elsewhere on your itinerary, so a 7 mm wetsuit is a good plan if you tend to feel the cold.

You'll probably want to maximize in-water time at Darwin, so – if you're a heavy breather – it's worth checking in advance whether 15l tanks are available on your vessel. You'll usually be in 15-25 m depth, so Nitrox can significantly extend your bottom time too, particularly towards your 4th dive at the end of the day.

Visibility has varied from around 5 m to well over 40 m when I've been at Darwin. It's impossible to predict far in advance, as it depends entirely on the current and other conditions. And speaking of current...

**WILL THERE BE A STRONG CURRENT?**

Possibly. It does happen. If there is a strong current, the best plan is to get behind a rock somewhere. There's nothing to damage on the rocks at Darwin, except some barnacles, so wearing a good pair of neoprene gloves is an excellent plan. Reef hooks aren't helpful, as there's (usually) too much surge. I use fairly powerful fins, which help a lot in the current.

If you're diving in current, obviously you'll be drifting as you ascend and complete your safety stop. Darwin is a remote area, so Galapagos liveboards are generally pretty good (check in advance) at supplying you with useful safety equipment if you haven't got your own. That might be a locator beacon, a noise-making system for your low-pressure inflator hose, or something similar. Every diver should (always) have their own large safety sausage that can be inflated on the surface.

While you can certainly dive the Galapagos without a lot of experience, it's good to have a decent level of proficiency (say 100+ dives) to get the most out of it. Doing a few dives shortly before you get to the islands would be useful, too, though you'll do a few relaxed dives at the start of the trip.

That said, the currents aren't that big a deal. You'll be well-briefed, and well-led underwater.



The hammerhead range, supporting the Marine Megafauna Foundation.

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**DON'T COUNT SHEEP. COUNT SHARKS.**

Watch epic remote video footage of schooling scalloped hammerhead sharks filmed at Darwin Island, Galapagos.

*Footage by Simon J Pierce*





(top) Whale shark with Jonathan R Green  
Darwin Island, Galapagos

(below) Scalloped hammerhead sharks and diver  
Darwin Island, Galapagos

### IS DARWIN GOOD FOR UNDERWATER PHOTOGRAPHY?

The answer is yes. It's amazing. However, there are some caveats.

The whale sharks won't come to you. Typically you'll be holding onto a rock at 15-20 m depth, and the guides will shake a rattle if they see a whale shark swimming past. If the current allows it, you'll swim out (fast!) and be able to get photographs of the shark. The quality of your photos will depend a lot on how close the shark is to you, and how well you can position yourself for a good composition. The thing is, they might swim past at the surface, or they could be deep... for a bus-sized fish, whale sharks have a weird way of sneaking up on you.

All the photos in this article were taken at Darwin. I use a fisheye lens (a Canon 8-15 mm at present) on a Sony A7rIII camera. I'll use strobes if I can, but be aware that they'll slow you down when you're swimming and can be difficult to handle in a current. When I'm working as a biologist I'll often forego the strobes as I've got additional equipment to manage. However, it's often surprisingly dark underwater if it's cloudy overhead, or on the first and last dive of the day, so you might have to push your ISO up to maintain a reasonable shutter speed.

I'll typically shoot in manual mode, often at f/8 and between 1/100 and 1/160 sec, with auto ISO so I don't have to think about settings too much while I'm trying to catch up to a massive shark.

### ARE THERE ANY OPERATORS THAT WORK WITH WHALE SHARK SCIENTISTS?

Some researchers do host educational dive trips. I'll be leading two whale shark-focused trips back up to Darwin in September 2021 with Aqua-Firma (see the information page following this article). For this year, check out Galapagos Shark Diving for information on Jonathan R Green's hosted trips. I've worked with Jonathan since 2014, he's the founder of whale shark research in the Galapagos, and he's a great guy.

As an aside, if you do take a camera to Darwin then we'd love to see your whale shark photos! It's hard for us to visit Darwin for more than a couple of weeks per year, so photos from visiting divers (from years past, too) are a huge boost to our research. You can submit your whale shark photos from the Galapagos to the global database at [www.whaleshark.org](http://www.whaleshark.org). **SJP**



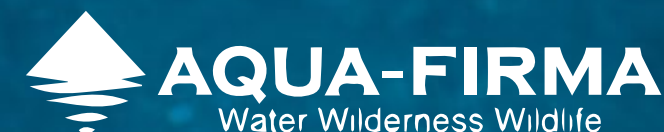


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OUR MMF TEAM IS HOSTING A RANGE OF AQUA-FIRMA TRIPS in 2020 and 2021. These trips make a significant contribution to our efforts to research and conserve marine life and their habitats. SJP ■



MARINE MEGAFUNA FOUNDATION



Find out more  
[www.aqua-firma.com](http://www.aqua-firma.com)



**DR. SIMON J PIERCE**  
Co-founder, Principal Scientist,  
Global Whale Shark Program

## THE GALAPAGOS



### Shark Research Insights & Photography Dive Liveaboard

This liveaboard expedition will be led by shark scientist and photographer Dr. Simon Pierce. Simon is one of the world's foremost whale shark researchers and is part of the Galapagos Whale Shark Project team. Joining this liveaboard will provide you with a unique opportunity to discover the very latest in whale shark research, while onboard workshops will provide you the opportunity to learn how to get the best out of your underwater camera gear.

30 AUG - 06 SEP 2021 - US\$ 5,840  
06 - 13 SEP 2021 - US\$ 5,840

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**DR. ELITZA GERMANOV**  
Project Leader, Manta Ray  
Program, MMF Indonesia

## KOMODO



### Manta Ray Research, Coral Triangle & Dragons

This resort-based trip will be led by Indonesian manta expert Dr. Elitza Germanov. Komodo National Park isn't just home to the world's largest lizard, the Komodo dragon; over 1,000 manta rays frequent these idyllic tropical waters. Komodo is located within the Coral Triangle, the world's most healthy and biodiverse coral reefs. This trip will allow you to learn more about the latest manta ray research while diving or snorkeling spectacular reef systems. And, of course, visiting the dragons!

27 OCT - 03 NOV 2020 - US\$ 2,390

[Learn more](#)



**DR. CLARE PREBBLE**  
Senior Scientist, Global  
Whale Shark Program

## MEXICO



### Whale Shark Research & Photography

This resort-based trip will be led by whale shark scientist and photographer Dr. Clare Prebble. Each year, just north of Isla Mujeres in Mexico, whale sharks come together for one of the world's most amazing spectacles as they gorge themselves on tiny, energy-rich tuna eggs. We will be joining Mexican whale shark researcher Rafael de la Parra and his team to search for and conduct research on this aggregation – for you, we hope that will mean snorkeling with hundreds of whale sharks!

17 - 24 JUL 2021 - US\$ 2,660  
24 JUL - 01 AUG 2021 - US\$ 2,660

[Learn more](#)



**STELLA DIAMANT**  
Project Leader, Madagascar  
Whale Shark Project, MMF

## MADAGASCAR



### Whale Shark Research, Marine Life & Lemurs

This resort-based trip will be led by whale shark scientist and photographer Stella Diamant, founder of the Madagascar Whale Shark Project. Aqua-Firma provided seed funding in 2016 to help start a whale shark research project in northwest Madagascar. Now, with around 400 identified whale sharks, the area is well and truly on the map as one of the world's best places to see whale sharks. Madagascar is famous for terrestrial wildlife too and you'll also have the chance to meet lemurs, chameleons, and other weird and wonderful forest life.

15 - 22 OCT 2020 - FROM US\$ 2,490

[Learn more](#)



**DR. CHRIS ROHNER**  
Principal Scientist, Global  
Whale Shark Program, MMF

## TANZANIA



### Whale Shark Research, Photography & Coral Reefs

This resort-based trip will be led by whale shark scientist and photographer Dr. Chris Rohner, Principal Scientist at MMF. Mafia Island is one of the world's most important research sites for whale sharks, and also part of the "Western Indian Ocean Coral Triangle", with some of the world's most diverse coral reef systems. We'll be snorkeling with whale sharks, often as they're chomping shrimp in huge mouthfuls, and also exploring Mafia Island Marine Park with its coral life and incredible "muck diving", including seahorses and frogfish.

21 - 29 NOV 2020 - FROM US\$ 2,990

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# A

**10 CM GOLDFISH**, swimming through the water at leisure, leaves a wake that persists for over five minutes. Imagine if a fish-eating animal could detect and track that turbulence. It'd be one unlucky goldfish.

Seals, which are basically Jedi, are way ahead of me.

Lots of mammals use body hair for motion detection. Cats use their whiskers to identify objects in darkness, but these sensitive hairs can even detect changing air currents in a room. Useful if an obnoxious, cat-bothering child is silently on the prowl.

Underwater, this ability can be even more helpful. Whiskers, known as vibrissae, are present in animals as diverse as hippos, river dolphins, and sea otters.

Seals, the best-studied of these groups, have the largest “mystacial vibrissae” of any mammals. These luxurious mustaches grow to at least 41 cm in length and are vital to their hunting in low visibility.

Each whisker on a seal contains around 1,000–1,600 nerve fibers. That's about ten times more than found in rats or cats. The vibrissae are extraordinarily sensitive. Tests have shown that seals can discriminate between objects of slightly different sizes as adroitly as monkeys can with their hands.

All three families of seals use their whiskers

to find food. “Eared seals”, the fur seals and sea lions, have a relatively sleek look, allowing them to live harmoniously in groups. (There may be more to seal social life than facial hair, but whatever. Call me judgemental.)

In contrast, walrus proudly maintain full hipster beards that would have been better left in 2012. While the pogonophobic Ross seal only has around 15 whiskers on each side of their snout, walrus have around 700 in total. These vibrissae, which form a dense beard underneath their mouth, help them to find and feed on buried shellfish in Arctic waters.

Walrus produce a hydraulic jet of water to excavate clams. That stirs up sediment, making vision useless – and the point of their beardiful appearance then becomes clear. Their whiskers can determine the size, shape, and texture of buried clams so fast that a walrus can find, and inhale, around six clams per minute.

“True seals”, such as common seals and elephant seals, tend to live a more solitary life. (This may be because their prominent handlebar mustaches are a social disadvantage.) They too have exceptional sensory abilities. Even blind seals have been seen to survive and maintain a good condition in the wild, indicating that they can hunt effectively with their whiskers alone.

Streamlined though they are, fish can't help but move water as they swim through it. Seals can follow simulated fish trails of at least 40 meters. Elephant seals, which feed on mesopelagic fishes,



Australian sea lion  
Jurien Bay, Western Australia





Bearded seal  
Svalbard





use their vibrissae to identify prey and hunt in permanent darkness at more than 500 m depth. Common seals can detect the gentle breathing of camouflaged flatfish, well-hidden in the sand. Of course, as life underwater is a constant evolutionary arms race, many fish respond by holding their breath when they sense danger.

Seals themselves also produce a wake when they swim. Their ability to follow the trail produced by their mother is critical for seal pups as they learn how to hunt. Common seal pups typically hold their breaths for about 1.5 mins, far less than their mothers, but they can track her movements and rejoin her at depth.

The usefulness of seal mustaches has not gone unnoticed by industry. Several research groups are building whiskered robots for object identification on land or wake detection underwater. Obviously, this would be useful for the military; they could detect stealth submarines or other vessels from their wake alone.

While their long vibrissae may lead to a bad case of resting itch face, seal mustaches are a fan(tache)tic adaptation to their environment. While hipster beards may never grow on me, they are clearly critical to the group's success as aquatic predators. **SJP**

■

New Zealand fur seal  
Kaikoura, New Zealand  
Photo by Madeleine Webb





**WILDLIFE  
PHOTOGRAPHY**  
*USER REVIEW*

**SONY**  
200-600mm Lens



Leopard  
600 mm, 1/1600 sec, f/6.3, ISO 12800



**I'VE BEEN USING THE SONY 100-400 mm GM** lens on a Sony A7rIII camera as my primary wildlife photography setup since June 2018. I've taken over 40,000 photos using this combination so far.

The 100-400 mm is a genuinely fantastic lens. There are often occasions, though, where some extra reach would be nice. I spent last July in the Arctic as the "photographer-in-residence" for G Expeditions. Of my 55 favorite wildlife photos from that month, 33 (60%) were taken with the lens fully extended to 400 mm. While the 42 MP sensor on the A7rIII allows for plenty of cropping, there's no substitute for "more lens" when I want to create big prints.

With that in mind, I've been interested in the new Sony 200-600 mm G lens as a potential addition to my system. Then, while we were planning a visit to Kruger National Park in South Africa in December, I noticed that A Lens for Hire in Johannesburg had the 200-600 mm available, at a price of ~US\$350, for our 15-day trip. Winner!

I took well over 8,000 photos with the 200-600 mm over our two weeks in Kruger. Madeleine was using my other A7rIII camera body with the 100-400 mm, so it was easy to compare the two lenses in use. This is very much a practical review, though – I wasn't trying to identify which of the two lenses is infinitesimally sharper, or has 0.001 sec faster autofocus. I just wanted to know whether it would be a useful addition to my camera bag.

## FIRST IMPRESSIONS

It's a big lens. The 200-600 mm is significantly larger and heavier (2,115 g) than the 100-400 mm (1,395 g). In practical terms, I can easily hand-hold the 100-400 mm for long periods, while the 200-600 mm is much more of a workout. However, you're not allowed to walk around in Kruger except in small, defined areas anyway. I was usually taking photos from our rental car, where I could rest the lens on the windowsill, or from bird hides that also had window ledges.

To put the 200-600 mm in context, the lens is far smaller than the 400 mm f/2.8 or 600 mm f/4 lens that many wildlife photographers choose to lug around. It's still big enough to dominate my camera bag though.



100-400 mm lens (top)  
200-600 mm lens (below)



Comb duck  
600 mm, 1/2000 sec, f/6.3, ISO 500

## USEFUL FEATURES

The "killer feature" of this lens is that the barrel doesn't extend, or rotate, as you zoom in or out. This is great. It makes zooming quick – extremely useful when you need to zoom out to locate a subject in the viewfinder. You can zoom from 200 to 600 mm with only a 90° change in hand position on the zoom ring. In contrast, it takes a 180° twist for full zoom in the 100-400 mm. You need to change hand position for that as well and, as the lens extends, the weight distribution changes too. The 200-600 mm feels much faster to use.

The lens hood that comes with the 200-600 mm is big, and does its job – reducing lens flare, protecting the front element from knocks, and acting as a barrier to dust or rain – with no fuss. The included tripod foot on the lens is big enough to serve as a useful handle when you're carrying it around attached to the camera, but the design requires a separate screw-on mount for attachment to a tripod or monopod. Lame. I'd add an Arca-Swiss replacement foot like the Really Right Stuff model I use with my 100-400 mm. I don't understand why Sony (and other





Lion cubs in the rain  
*600 mm, 1/1000 sec, f/6.3, ISO 8000*



manufacturers) supply “tripod mounts” that won’t directly mount on a tripod. You had one job, tripod mount.

The lens includes a “Focus Hold” button, which is programmable. I’ve set this as my “ohshit” button, an instant override using the “Recall Custom hold” function. The idea is that if I’m doing something weird, like trying to shoot a hippo in a river with a slow shutter speed to blur the water movement (as seen in the below photo), but then a pride of lions suddenly bursts out to attack said hippo (I live in hope; sorry hippo), I can immediately switch the camera to “fast action” mode by pressing and holding that lens button.

For reference, I programmed the Focus Hold button to switch the camera over to 1/1600 sec shutter speed, f/8 aperture and Auto ISO to freeze motion, with continuous autofocus, Lock-On AF: Wide, and AF-ON so that it would have immediately tracked the lions as they brutally but majestically combined to take down the hippo in a multiple award-winning photo sequence (again, sorry hippo). It’s nice to have a “panic button” like that when you’re shooting unpredictable wildlife.



Hippo (or rock)  
207 mm, 1/8 sec, f/14, ISO 100

### HOW’S THE AUTOFOCUS?

The 200–600 mm combines well with the Sony A7rIII for fast autofocus. I suspect the 100–400 mm is ever-so-slightly better with lock-on AF (i.e. continuous tracking) than the 200–600 mm, but not in a particularly noticeable way – it’s just a feeling. I wasn’t shooting many birds in flight on this trip, which is always a good test for autofocus systems, but the lens had few problems keeping up with hyenas jogging towards us in low light.

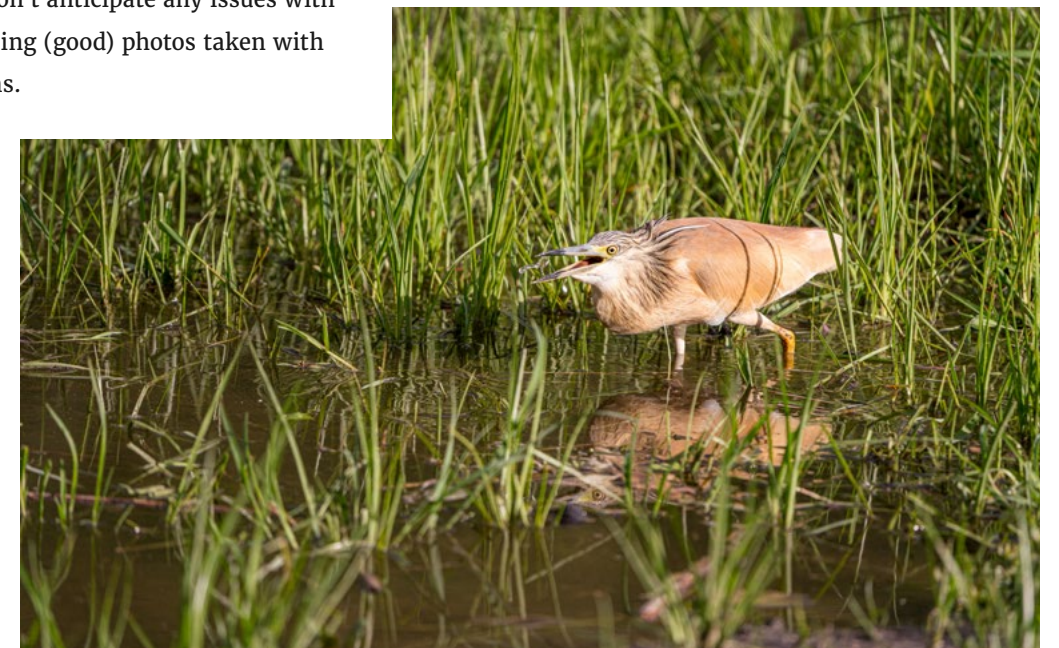
In practical terms, it’s best not to be completely reliant on the A7rIII’s lock-on autofocus anyway. The tracking capabilities of the camera are impressive in good light, but it struggles with low-contrast subjects. I normally shoot with Lock-On AF: Expand Flexible Spot (which I find to be the most predictable and reliable tracking mode for my shooting style) programmed to my AF-ON button. That’s my preferred option, but my AEL button is customized with an override to Flexible Spot: Small (also using Recall Custom hold). That way, if tracking is proving fickle, I can immediately switch my thumb over to the AEL button and manually place the focus point exactly where I want it.

A neat feature on some mirrorless cameras, and particularly the newer Sony lineup, is the addition of Eye AF – the camera will look for, and focus on, the closest eye in the scene. This works great for people. Animal Eye AF also became available in a firmware upgrade for the A7rIII last year. It’s been developed to work well



### IS IT A SHARP LENS?

Yes. It’s certainly sharp enough for me. I don’t anticipate any issues with publishing (good) photos taken with this lens.



Squacco heron  
catching a fish  
Cropped detail (top),  
full image (below),  
600 mm, 1/2000 sec,  
f/6.3, ISO 800





Young hyena playing with its stick  
368 mm, 1/1000 sec, f/6.3, ISO 12800





Dwarf mongoose family  
582 mm, 1/2000 sec, f/8, ISO 640

for domestic dogs and cats, so I thought I'd try it with their larger relatives, such as lions. I did some opportunistic testing during this trip. It's very cool... sometimes. As soon as a lion turns its head, for instance, the autofocus completely loses the plot. Animal Eye AF also struggles to consistently identify eyes – it will lock-on to ears and random leaves, and it's quite hard to refocus if it has misidentified the subject. It was fun to try with the 200–600 mm, but I don't think it's ready for use in serious wildlife photography at this stage.

#### **DOES THE 200-600 MM WORK AS A SAFARI LENS?**

Of the 7,998 photos I took with the 200–600 mm shots in Kruger (excluding those taken with the 1.4x teleconverter, discussed below), 6,930 (87%) were at focal lengths from 404–600 mm. The extra reach over the 100–400 mm was definitely useful, and I used it a lot.

Although I was often shooting at the longer end of the zoom, there are often opportunities to photograph smaller animals, such as chameleons, mongooses, or tortoises, near the car. The 200–600 mm will focus as close as 2.4 m (8 ft), which was fine for those occasions.

Unfortunately, as you can see from some of the photos here, we had miserable weather through much of the trip. With a minimum aperture of f/5.6, switching to f/6.3 at about 300 mm, this isn't a “fast” lens. The overcast conditions and regular heavy rain meant that I was often shooting at high ISOs (35% of my photos were taken at ISO 6400 or above), which does degrade image quality. Fact is though, you can't get a faster lens for Sony in this focal range without paying serious money for it – retail price for the Sony 600 mm f/4 GM is US\$12,998. Most people would prefer to just deal with slight image noise. (For the record, I've found Topaz DeNoise AI to work magic.)

I still think the 100–400 mm is better as a “do it all” lens on a Kruger safari. Mads was able to photograph larger animals next to the car, which did happen a few times, as well as general wide shots such as herds, and nice sunrises and sunsets. Ideally, though, you'd have two camera bodies anyway. Following this trip, I think my optimal setup would be the 200–600 mm and a second body matched with a wider and faster lens such as a 70–200 mm f/2.8 (or the upcoming Tamron 70–180 mm f/2.8).



## MOAR REACH

The 200–600 mm is the “longest” Sony zoom lens available, but you can extend its reach even further by adding a 1.4x or 2.0x teleconverter. I’ve got the 1.4x teleconverter, so I took the opportunity to use it for a few test shots while we were at the Lake Panic bird hide.

The results were quite good. Autofocus seemed okay with the teleconverter attached, although I was almost always using “Flexible Spot: Small” at those distances anyway. I would totally use it for distant subjects.

However, it’s very important to point out that the A7rIII’s continuous autofocus has limitations at apertures over  $f/8$ . Above  $f/8$ , if you shoot a burst, the focus will stay locked at the initial focus distance. The  $f/6.3$  aperture of the lens above 300 mm, plus the teleconverter, means that your working aperture is  $f/9$ . If you’re trying to capture birds in flight, or any animals that are moving towards or away from you, you’ll want to switch your drive mode to Single Shooting so you can keep the subject in focus.

Of course, you’ve got plenty of megapixels to play with on the 42.4 MP A7rIII, and even more on the newer 61 MP A7rIV. A large-screen 4k TV or computer monitor is only equivalent to an 8 MP still image, so you’ve got plenty of pixels leftover if the image is destined for online use. For a quick in-camera “digital zoom” I’ve set my C2 button to manually switch to APS-C (1.5x crop) mode via the “APS-C S35 / Full Frm Sel.” function. That uses only the center area of the sensor, giving the appearance of a 900 mm lens (but producing an 18.8 MP image).

Why is that useful? Well, because the electronic viewfinder immediately magnifies your view to match. It can be easier to place the autofocus point exactly on the small eye of a bird, for instance. I try not to overuse APS-C mode, though, as it’s exactly the same as cropping an image during post-processing. It’s helpful to keep those extra pixels to help refine the composition. Still though, it’s useful to know about.



**Malachite kingfisher**  
 Shot with 1.4x teleconverter  
 832 mm, 1/1000 sec,  $f/9$ , ISO 1600





Lion, Lyin'  
600 mm, 1/2000 sec,  
f/8, ISO 1000

### FINAL THOUGHTS: WILL I BUY THE 200-600 MM? SHOULD YOU BUY IT?

Well, that's the US\$1,998 question, isn't it? The answer is... yes. I probably will buy it.

Overall, I prefer the 100-400 mm as a walkaround lens. It's much smaller and lighter, focuses much closer (98 cm), and – as above – I can still use APS-C mode to get to 600 mm (18.8 MP) at a push. But there are plenty of situations, such as working from a car in Kruger or from a boat in the Arctic, where I can benefit from the extra reach while avoiding having to carry a heavier lens around for long periods. The 200-600 mm is still totally hand-holdable, it's just more of an effort than the 100-400 mm. Importantly, we're about to start selling big, gorgeous, high-end metal wildlife prints now (yay for product plugs!), so the ability to get to 600 mm at full 42 MP resolution is – literally – valuable to me.

Which lens should you choose? Well, that depends. The 200-600 mm is actually cheaper than the 100-400 mm (which retails at US\$2,498), so it's fantastic value. You'll want to consider several questions, though. How much will you be hand-holding, travelling with, or walking around with the lens? The 100-400 mm is significantly smaller and lighter. How often do you anticipate shooting at over 400 mm? If you're likely to be shooting distant subjects on a regular basis, as we were doing in Kruger this trip, the 200-600 mm was fantastic.

Ultimately, the good news is that you can't go wrong here. Both are great lenses. I hope you've found this comparison useful! **SJP**







# SET & FORGET

## *A Beginners Guide to Wildlife Photography*

**L**OTS OF PEOPLE TELL ME they want to give wildlife photography a try. Then I see them pick up a camera, look at all the buttons... carefully put the camera back down, and go make a cup of tea instead.

Okay, so I know a lot of British people, but my broader observation is that people get put off because they don't know how to start.

Fortunately, as jumping into things without a clue is pretty much the story of my life, I'm well-placed to provide some good news here.

**EVEN IF YOU DON'T KNOW (AND NEVER WANT TO KNOW) ABOUT CAMERA SETTINGS, YOU CAN STILL GET AMAZING WILDLIFE PHOTOS WITH ALMOST ANY CAMERA.**

Camera-makers have, in their wisdom, provided a number of camera "modes" that allow you to ignore all the buttons. Unfortunately, they've kinda forgotten to tell people about them. No worries – that's why I've written this article.

Have a look at whatever camera you've got nearby. There's normally a dial on the top of larger DSLR or mirrorless cameras with various letters or pictures on it. That's the mode dial.



Atlantic puffin  
Svalbard





Polar bear  
Svalbard



If in doubt, you can always just try Auto. However, you can usually get better results by telling the camera what it is that you want to photograph. I suggest you try “Sports” mode to get started with wildlife photography.

**SPORTS MODE IS DESIGNED TO TAKE PHOTOS OF SUBJECTS THAT ARE MOVING AROUND FAST AND CHANGING DIRECTION ERRATICALLY. THAT WORKS GREAT FOR FOOTBALL PLAYERS. IT USUALLY WORKS WELL FOR WILDLIFE, TOO.** Behind the scenes, the camera processor will be trying to help you get sharp photos by identifying what you want to photograph, continuously focusing and tracking your subject, and using a fast shutter speed to freeze motion. You don’t need to understand any of that. The camera does it for you.

Sports mode is available in nearly all digital cameras. I just checked Canon, Fuji, Nikon,

Olympus, Sony and Panasonic cameras, and all of them have it. You’ll typically find Sports mode

via that top dial on larger cameras, either directly by simply twisting the dial – if there’s a little running figure – or as an option within the SCN (“Scenes”) menu accessed through that same dial. Smaller compact cameras might have the Mode dial on the back, but it’s otherwise similar.

Now, go play with it. Seagulls at the beach, squirrels in the park, your cat roaming majestically across the kitchen... whatever. Of all the elements that make for an epic wildlife photo – subject, light, composition, behavior – your specific settings are a long way down the list. So let your camera do the thinking. Go out and find some wildlife, have fun, and we’ll talk about some of those other photographic factors next time. **SJP**





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# MUCKING

AROUND IN

# BALI



**L**AST YEAR we spent a few weeks on Nusa Lembongan, in Indonesia. After some excellent wide-angle dives over there, I asked our guide – Indo expert Brooke Lori Pyke, from Siren Divers – for a recommendation on her favorite macro diving in the Bali area.

Tulamben? Sold! Then I just had to find out where Tulamben was...

Don Silcock's fantastic resource website for divers, [indopacificimages.com](http://indopacificimages.com), is always worth a read. His Bali guide added Don's own firm recommendation for Tulamben, and suggested Scuba Seraya Resort as an excellent base for "muck diving".

### MUCK DIVING? THAT SOUNDS... DIFFERENT?

Yeah, I hear ya. If you're into blue water and gorgeous coral, this ain't the place for you. There's one "classic" (and extremely popular) dive in the area, the Liberty Wreck. Aside from that, you're mostly diving on what divers call muck. I'd call it sand, because marketing.

Regardless, it isn't particularly inspiring to look at. The animals that live here, though, are fantastically, mind-blowingly diverse. After three solid days of diving, I was hooked. Tulamben, close to the spectacular Mt Agung, is stunning, Scuba Seraya is one of the nicest little dive resorts I've stayed at, and the diving... well. Let's talk about the diving!



Ornate ghost pipefish  
Tulamben, Bali



The shore dive immediately in front of Scuba Seraya used to be called "Seraya Secrets". Our guide Komang explained that they're just calling it the house reef now, as "the secret is out." He wasn't wrong. It was quite busy underwater at times, although staying at the resort made it simple to dive during the quieter times of the day (other people's meal times!)

It's worth it. Wander a few meters into the sea and, after a short swim, you'll be appreciating harlequin shrimp, ornate ghost pipefish (both black and white variations), hairy squat lobsters, and a variety of other fancy critters. Further afield, but within 10 mins boat ride, we saw seahorses, wonderpus octopus, Shaun the Sheep nudibranchs, and frogfish.

All that, underneath an awe-inspiring volcano. Take me back. Immediately.

Tulamben is very much a preferred habitat for experienced underwater photographers and marine critter aficionados. Most of the divers you'll see (away from the Liberty, which is a popular destination for day trips) are very competent. Scuba Seraya lets you do the

shore dive as a buddy group any time you like, unguided, though we preferred to dive with Komang – he's fantastic!

The dives are deeper than I would have expected for a shore entry, with a max depth of around 27 m. We paid a (small) surcharge for nitrox fills, which was well worth it. I also rented a 15l tank, allowing us to stay down for 60-70 minutes each dive, working our way up into the shallows for a 5 m safety stop before walking up to the dive center.

The water is lovely and warm – about 30°C in April when we were there. Full rental gear is available on-site.

The four of us (Mads & I, plus friends) dove at a relaxed pace of 2-3 dives per day, mostly doing shore dives or the nearby boat dives. We set our own schedule and had Komang as our guide the whole time. As a photographer, it's great to have a dedicated guide, as they know what you've already seen. All the staff were super helpful – they set up and de-kit your gear, help you in and out of the water, and are always around if you need them.

(top) Scuba Seraya Resort and Mt Agung  
Image source: scubaseraya.com

(below) Shaun the sheep nudibranch  
Tulamben, Bali







Orbicular batfish  
Tulamben, Bali

### DIVING THE LIBERTY WRECK

We did one early morning dive at the Liberty. It was fun, although there was plenty of company. The crowd was actually thinning out as we were leaving, and the light was getting far better, so I'd suggest having an early or late breakfast and starting your dive while the first groups are leaving at around 7:30–8:00 am.

The wreck itself was interesting, and there was a hawksbill turtle and a few decent-sized fish around. There are probably some good photographic opportunities available inside the wreck (it's very open), so stick your head in and take a look around.

Don Silcock has written up a great, detailed guide to the Liberty Wreck, so check his site out for more information.

### WHEN TO GO?

Komang told us he thinks the best time to dive is November. April was still pretty goshdarn fun though!

Don, again, has useful information to add here:

*"The very best time for diving Tulamben Bay is October and November..."*

*The period at the start of the southeast monsoon in May, June and through to about mid July also offer good conditions. But after that for about 2 to 2.5 months high winds create rough seas and*

*poor conditions. Around the end of September the conditions start to improve again.*

*Generally from December through to early April, when the northwest monsoon is at its peak, there are strong winds and rough seas."*

Don Silcock, Indopacificimages

### WHERE TO STAY?

Scuba Seraya was a great option. It's quiet, well-located, the rooms are very comfortable, and the food in the restaurant was good and inexpensive (chicken satay for the win.) A great breakfast is included. I don't like randoms touching me, but the other three were off getting massages every five minutes. It's all pretty idyllic.

The resort is well set up for photographers, with a dedicated camera room at the dive center. There was great service all-round. We had a few issues with our transfer (the ferry from Lembongan went to an unexpected port) and the office staff and driver were both amazing.

Otherwise, next door there's Villa Markisa, which I'm told is really nice, and Tulamben proper is close by. Brooke mentioned that she usually stays in Amed, which is around 20 mins drive on a scooter. The diving is good over there too, apparently. A quick look on AirBnB uncovered some lovely villas for rental, which we'll certainly consider if we do a longer-term stay in future.



## PHOTOGRAPHIC CONSIDERATIONS

I updated my article on underwater macro photography with the Sony A7rIII following this trip. There are lots of specific details there on the settings and equipment I use.

One significant downer for me is that the guides in the area seem very “pokey”. I guess a lot of photographers want their guide to prod the subject into a more photogenic location, but personally I just want to see the animal in its natural habitat.

Here in Tulamben, guides had clearly been hacking off starfish arms and bringing them to the harlequin shrimps, to keep them in an area where they could be easily found. I’ve chosen not to include photos of the shrimp here for that reason.

I’d suggest that, in muck diving and macro photography sites in general, it’s extremely important to talk to your guide about your expectations, and what you consider to be appropriate behavior. There’s a good article here about ethical underwater macro photography.

Aside from that, everything was fantastic. You can set your own schedule, and dive in your own group, which we thoroughly enjoyed.



Fingered dragonet  
Tulamben, Bali





(top) Peacock mantas shrimp  
Tulamben, Bali

(left) Whip coral shrimp  
Tulamben, Bali

## GETTING TO TULAMBEN

Tulamben village is in northeast Bali, two-hours drive north from Kusamba, which itself is a short ferry ride across from where we were based on Nusa Lembongan (I love Lembongan). I love Bali logistics, too. Scuba Seraya organized a bus transfer for the four of us from Kusamba, and we were diving in Tulamben that same afternoon. Simple. Bus transfers can also be easily organized to or from the international airport at Denpasar in Bali.

## OTHER THINGS TO DO

The area is beautiful – I thoroughly recommend renting a scooter (moped) for some exploration. Komang, our guide, set that up for us. There are some nice restaurants (warungs) for in both Tulamben village itself, which is just down the road, and Amed which is about a 20 min drive away. From both, you can enjoy the view of nearby Mt Agung, which looms over the landscape in truly impressive fashion.

From Tulamben, it's easy to head to other diving destinations, such as Nusa Lembongan to the south, or the other muck diving sites along the north coast.

Hope that helps you plan your trip! We can't wait to get back there. **SJP**



Useful links:

<https://naturetripper.com/underwater-macro-photography>

<https://www.scubaseraya.com>

<https://indopacificimages.com>



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The wondrous creatures inside excel in the arts of seduction and deception, and you'll have the rare chance to see and delight in their antics. You'll also learn what they eat, how they play, and how they care for one another, live on one another, and mimic others when they're afraid. There is also compelling insight into the naming process, which creatures are facing extinction, and how we can help them before it's too late.

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# THE WORLD BENEATH

#1  
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Sea Creatures and Coral Reefs*



*This guide is not just a tangible thing of beauty but also an enduring record built on proven knowledge, dedication and skill ... we did find ourselves returning to re-read sections describing particular reef habitats several times such was their beautifully detailed depiction.*

ULTRAMARINE  
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DR. RICHARD SMITH



# THE BEST SNORKEL FINS

**A** **S A WHALE SHARK BIOLOGIST** most of my work is done while snorkeling. Both of us love the freedom of snorkeling, being able to spend as much time as we like in the water, cruising along in a Zen-like state, having great encounters with animals that aren't being scared away by noisy scuba gear.

A huge advantage is that you don't need much gear – but the gear you do need, matters. Having a leaky mask, choking in your snorkel or tiring yourself out with noodle-fins really kills the vibe. Having the right kit, though, can turn you from tortoise to turtle.

First up, we've decided to focus on fins. I had to buy a new pair last year, so we thought we'd research the purchase properly, then report back on what we've found.

We think the best option for most people will be the Mares Avanti Superchannel Snorkel Fins. They're super comfortable for most people and have a flexible but powerful blade that allows you to swim long distances without getting tired.

We've also identified a more powerful fin for advanced snorkelers that enjoy a bit of free-diving, the Mares Avanti Quattro Power. This is what I ended up buying – and I use them for diving now, too! They're great in currents, or when I have to keep up with sharks (temporarily at least). We also have great options for people that have a more chillaxed style, and fins for people that want a lighter-weight option for occasional use.



# OVERALL WINNER

## best snorkel fins for 2020

**mares**

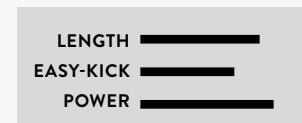
### SUPERCHANNEL

**COMFORTABLE AND SOFT, THESE EASY-KICK FINS HAVE LOADS OF POWER ON DEMAND.**

The flexible blade makes kicking a breeze, while the multichannel design efficiently propels you through the water. These fins perform very well for both surface snorkelers and shallow freedivers. The soft-molded foot pocket means you can wear these with or without neoprene socks, although we always recommend protecting your feet.

**GOOD TO KNOW:** Compared to the Waves (opposite) these will feel more powerful, though they're slightly stiffer which can make them more tiring to use. The Superchannels are a great intermediate option for snorkelers and will be good for divers as well.

[Read the full Mares Superchannel review](#)



# Best easy-kick fins for surface snorkeling

**mares**

### WAVE

**THE SOFT-MOLDED FOOT POCKET WITH AN 'EASY-KICK' ULTRA-FLEXIBLE FIN BLADE IS PERFECT FOR LEISURELY SURFACE**

**SNORKELING.** If you tend to be happiest while relaxing on the surface, without too much need for powerful kicking, these fins are for you. They're great for near-effortless movement.

**GOOD TO KNOW:** If you think you'll be wanting to do a bit of freediving, or will need to keep up with fast-moving marine life, these will likely feel a bit *too* flexible.

[Read the full Mares Wave review](#)





# Best power fins for shallow freediving

**mares**



## AVANTI QUATTRO POWER

**MOAR POWER.** These fins are longer than regular snorkel fins, and more powerful, and I love them. They've become my preferred fins for both snorkeling and diving, including when I need to include some free-diving.

**GOOD TO KNOW:** Their power comes from a longer, stiffer blade, so they'll obviously take up more space in your bag. They're probably overkill for most snorkelers but, regardless, I can highly recommend them after months of hard use.

[Read the full Mares Quattro review](#)



LENGTH   
EASY-KICK   
POWER 

# Best snorkel fins for travel

**SCUBAPRO**

## GO TRAVEL




**THESE HUGELY POPULAR FINN ARE A COMPACT AND LIGHTWEIGHT OPTION.**

These are the preferred travel fins for many snorkelers as they provide good power while remaining flexible enough for relaxed snorkelers. Reviews are highly positive about the comfort of the soft-molded foot pocket, their durability ('unbreakable!'), and the travel friendly 771 g weight.

**GOOD TO KNOW:** The shorter blade won't provide as much power as the Superchannels or Power fins, and they're kinda fugly. They certainly appear to outperform other 'travel fins' on the market though!

[Read the full ScubaPro GO Travel review](#)



LENGTH   
EASY-KICK   
POWER 



# STAY INSPIRED

**INSTAGRAM ISN'T JUST** for selfies (gasp!). It's one of the best places to follow photographers, scientists and conservationists online. Each issue we'll feature a few interesting people so you can check them out.

## TAMZIN HENDERSON

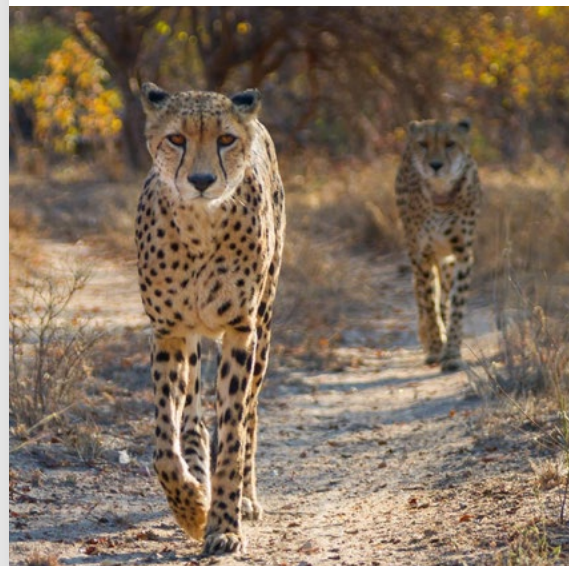
is an expert bird photographer from New Zealand. She swears she isn't a twitcher, but she has an albatross tattoo. You be the judge.



 @tamzin.nz

## JOSH GUYAN

is a professional wildlife photographer and filmmaker from the UK. He's reliably hilarious, and shares lots of great photography tips.



 @wildlifejosh

## JASMINE VINK & JANNICO KELK

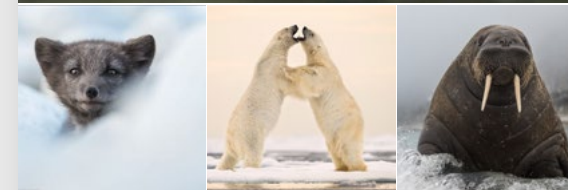
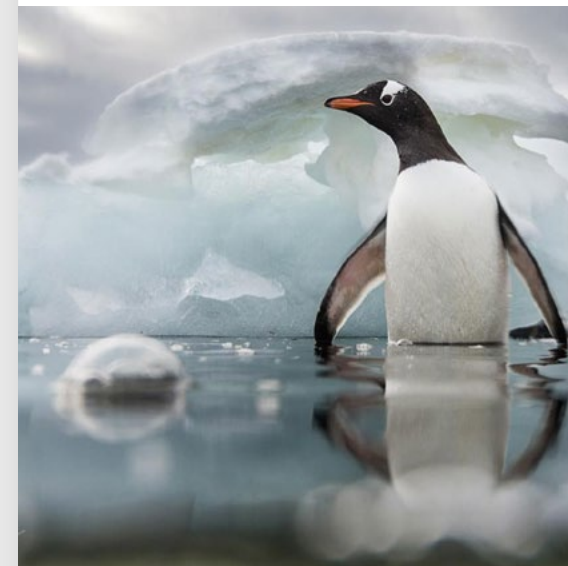
are fantastic wildlife photographers from Australia who specialise in shining a light (literally: they're masters of flash photography) on some of the lesser-known, ridiculously cute outback species.



 @jasmine\_vink  
@jannicokelk

## ROY MANGERSNES

is a specialist polar photographer from Norway who somehow manages to capture insane shots from the world's most extreme environments.



 @roymangersnes





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