Water Column

FEBRUARY 2022 ISSUE 18

Western Australia Underwater Photographic Society's Bi-annual Underwater Journal

Creature feature: Soft corals

Abrolhos Islands trip

WA's Cocos Islands

Shooting the Milky Way

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WAUPS

Cover, soft corals in the blue water mangroves of Indonesia, by Sue Morrison

Publishing credits: Editor **Viv Matson-Larkin** | Layout design **Tammy Gibbs** | Printing **UniPrint**

EDITOR'S BUBBLES

Howdy Members,

If I have not yet seen you this year, I hope you had a pleasant Christmas-New Years' break and Australia Day.

Having Zoom has certainly kept the club going during COVID lockdowns as it gave us the opportunity to hook up with some very interesting guest speakers online. We are extremely grateful to all those who put on presentations.

Based on member participation throughout the calendar year the Golden Snapper Award winner for 2021 was Jenny Ough. Congratulations Jenny, great effort! I throw out the challenge to make it three consecutive years seeing you won that trophy in 2020 ☺.

Our overall winner for PIXELS 2021 was Shannon Earnshaw. Congratulations Shannon, a well-deserved win! While sourcing images for the 2022 PIXELS themes, keep in mind two special competitions that we announce the winners of at the June AGM. They are 'Image of the Year' and the 'Wayne Storrie Humour Award'. For the latter let your creative side go wild as computer enhanced images are allowed. Previous entries have been quite witty in nature and extremely amusing.

Tammy Gibbs won the 2021 Open Portfolio, sponsored by Dive Tub. And Jason Milligan won the 2021 Novice Portfolio, sponsored by Perth Scuba. Both entries featuring a range of macro and wide angle images, that were absolutely stunning with the composition catching the judge's eyes. Look forward to seeing who will be our winners for 2022.

Sincere thanks to the external judges and sponsors who support our competitions. Even bigger thank you to my fellow committee members who maintain the website and Facebook group. They arrange external outings, source guest speakers and judges, manage critique nights, organise training, oversee competition scoring, etc. A special mention to those who have given their time to man the WAUPS table at the annual We Love Diving Day held at Dolphin Dive, and those who organise the monthly dives and especially the catering.

Now it's truly summer and most of you are diving regularly do think about doing an article for your club magazine. Any outing, dive trip or image for Parting Shot gratefully accepted.

Keep blowin' bubbles

Viv

Top to bottom: Ross, Amanda and Mary at the We Love Diving Day; Jason receiving the Novice Portfolio prize from Ross; Kathleen Wilton was runner-up in the Novice Portfolio.

COCOS CORALS, CRABS AND CRAZY DIVERS
(well, snorkelers on this trip)

by Ann Storrie | Images by Ann Storrie, Sue Morrison & Bill Biggs

I assume you've all seen the adverts for the Cocos (Keeling) Islands, have probably dived there already and know where they are. If not, hey, Google it as this is not a typical travelogue. The ads of course depict a perfect summer's day with a sexy girl floating in crystal clear water with no wind and over 50 metre vis. I know it is like that for a short time of the year, but since the atoll is now booked out until about 2025, it doesn't matter and you'll have to make do with this.

Both Sue and I dived at Cocos between 30 and 40 years ago (yes, we're that old!). We both loved our separate experiences and decided to revisit with the Busselton Naturalist Club last year. And guess what? Despite the weather and a few hiccups with accommodation, we enjoyed every bit of it - including the rain and wind? The Islands and marine life have changed very little!

It was July 2021. Living in the Lucky Country and State for COVID and having the wettest, coldest, windiest and most horrible - but needed - winter in the South-west, who cared that it rained in 30 degree heat at Cocos! Mind you, the first afternoon we arrived, we planned to cycle 7km to the south of West Island to snorkel. A couple of younger, fitter people turned back due to the 50 km/hr south-west winds, so we gave that a miss. Still plenty to see and do with crabs in the coconut forest, white terns nesting everywhere, drives to check out more snorkelling spots, canoe trips to book, ice creams to eat and a birthday party to attend.

Next day, our Direction Island tour was cancelled due to the 60km/hr winds, so Sue, Bill and I decided to bike to a beach just north of the settlement for a snorkel on the West coast. What fun. 1 metre vis, a rip heading north, no south, no north, maybe west - hey we got back to where we started! I took a photo. Sue took two - on land.

The following morning, some of us did a motorised canoe trip to the south of the atoll. Apart from an hilarious bump with the boat in front, we had a wonderful morning with overcast, but relatively calm weather. Visited four islands viewing hundreds of crabs, birds, rare skinks and turtles. We finished at Pulu Maraya where, if timed correctly, a drift snorkel takes you around the Island to the other side where you walk through and start again. Although shallow, I enjoyed this as much as any dive at Cocos. Saw huge schools of blacktail snapper, longtoms, mullet, convict surgeonfish, bream, wrasse, damsels, a couple of turtles and a reef shark or two. There were bright blue and green clams of various shades, several species of sea cucumbers, mangroves with cardinal fish and monocle bream among the roots, hard coral gardens and seagrasses all packed into a 30 minute drift. To keep us awake that afternoon we visited Home Island where the Cocos Malay people gave us a guided buggy tour and fed us a wonderful Malay evening meal.

Finally, perfect weather for Direction Island the next day. The Rip that runs between this island and Home Island was teeming with reef sharks, bumphead parrotfish, giant trevally, unicorn fish, plus excellent corals and their associated colourful reef fishes on the opposite bank. Most people managed one or two rips with a swim of a couple of hundred metres in the shallows back to shore. I lost count of the number Sue did - I think it was at least one more than me! (One of our group was picked up by a passing boat). If you dive or snorkel Cocos, don't miss the Rip (or Maraya Island).

Buckets of rain (40mm) fell that night plus a thunderstorm. Undeterred, we walked across to Pulu Maraya for another drift or two that morning. Walking across the 100 metres in the shallows can be a bit tricky. Get local advice re tide times and don't get washed away!

In among all this, we also did two snorkels at Trannies beach on the West coast (a relatively sheltered area with loads of Picasso Triggerfish, unicornfish, butterflyfish, angelfish and stuff Sue knows better than I). We also visited the Big Barge (an art studio), John Clunies Ross' clam farm, did a third snorkel at Pulu Maraya when we persuaded a few 'new' snorkelers to join us, ate fantastic meals at Saltmakers and the local pub, took loads of bird shots and scenery and even played a game of tennis.

Our thanks for this trip go to Bernie Masters, President of the Busselton Naturalist club and his wife Carolina who did an amazing job keeping 27 people happy on both Christmas and Cocos Islands for two weeks.

(P.S. Writers' licence may apply to wind speeds).

Above: Snorkelling adventures around Cocos.

Row 1: Rockmover wrasse and cleaner wrasse; Picasso triggerfish; juvenile boxfish. Row 2: Blacktipped reef shark with Longtoms; Sue with a big red crab.

CREATURE FEATURE by Sue Morrison

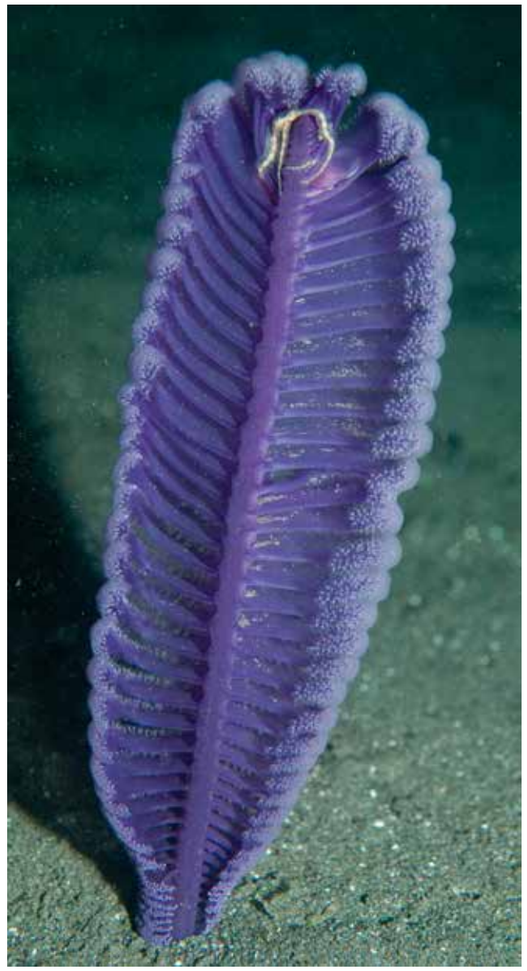
Soft Corals - Octocorallia

Soft or Hard? So how do you distinguish between a soft and a hard coral – is it the degree of 'squishyness"? Not so easy unfortunately, as hard corals can be soft on the surface and soft corals can be fairly hard! The key feature is the tentacles – hard corals have unbranched polyp tentacles in multiples of 6, but soft corals always have 8 feathery tentacles (hence the name Octocorallia).

Close relatives. Soft and hard corals both belong to the Class Anthozoa, but are in separate subclasses. Hard corals are classified as Hexacorallia along with sea anemones and zoanthids, but soft corals are in the subclass Octocorallia, along with sea fans, sea pens and blue coral. Soft corals and sea fans are most closely related and classified together in the order **Alcyonacea**, sea pens in the order **Pennatulacea**, and Blue Coral in the order **Helioporacea**. See article on hard corals in previous Water Column issue 17 for details on body structure.

Pliable skeleton. Soft corals are generally soft and bendable (to a degree!) because they lack the solid calcareous skeletons of hard corals. The colonies develop all kinds of weird and wonderful body forms including encrusting films, fleshy lobes, slender fingers and huge fans. To support these bodies, most soft corals depend on water pressure (a hydroskeleton). Extra support is provided by sclerites which are needle-like crystals of calcite (a type of calcium carbonate) deposited in a fibrous matrix. The shapes and sizes of sclerites are distinctive for each species. They are not always visible externally, but you will be familiar with the extra-large, prickly ones on the surface of colourful *Dendronephthya* species. Sea fans or gorgonians, in contrast, have a relatively solid internal central axis made of gorgonin (a hard, proteinaceous material similar to horn) containing collagen-like material. Many species also incorporate calcareous material including sclerites. Some species are more brittle than others, depending on how the sclerites are arranged. Sea pens have a central calcified axis, and many also have sclerites. A couple of surprising exceptions with non-flexible skeletons (there are always some!) are the blue coral (*Heliopora coerulea*), which has a solid aragonite skeleton and the organ-pipe coral (*Tubipora musica*) with fused sclerites, that resemble hard corals.

Top to bottom: Habitat dominated by soft corals; Carijoe species; large sclerites on Dendronephthya with Holophrys oatesii crab



Top to bottom: Sea pen; blue coral; organ-pipe coral.

Micro diet. Most octocorals are suspension feeders that filter small food particles out of the water column. The emphasis being on small i.e. under 20 micrometre particles including plant, animal and bacterial plankton. The stinging cells (nematocysts) on the polyp tentacles may capture larger particles, but if unsuitable (too large or too active) they are released. Octocoral nematocysts are more simple and less effective than those of their jellyfish, hydroid and anemone relatives. They cannot penetrate human skin and consequently soft corals and gorgonians cannot sting humans. The rate of food intake depends on water flow – if currents are too strong they bend the polyps and reduce food intake, if too low there may be insufficient food passing by, consequently intermediate unidirectional flow is optimal for their feeding and growth.

Symbiosis. Many species of soft corals also have zooxanthellae (single-celled algae) in their tissues that photosynthesize and supply energy in the form of sugars to the coral. In turn the coral provides nutrients, carbon dioxide and a protected microhabitat to live in. However, photosynthesis by zooxanthellae in soft corals in much lower than in hard corals, and the energy produced is insufficient to cover the basic needs of soft corals. If a soft coral colony expands during daylight, it can increase the rate of photosynthesis as much as 30 %. The patterns of expansion and contraction however, do not always seem to follow light and dark - there is much still to be learned! Soft corals with zooxanthellae include many Nephtheidae, Alcyoniidae and Xeniidae species. However, many groups such as sea fans and *Dendronephthya* species lack the symbionts. The latter species depend strongly on currents to transport food to the polyps. Typically colonies that are dull-coloured beige or brown contain zooxanthellae, and the brightly coloured ones do not.

Reproduction. Most soft corals have separate male and female colonies, and a few are hermaphrodites. Most species are synchronised by lunar phases and temperature, during which eggs and sperm are broadcast into the water column where they are fertilised. The resulting plankton remain in the water column for several days to weeks, after which they settle on the seabed and transform into founder polyps, often hundreds of kilometres away from the parent colonies. Other species brood the larvae internally in the female colony (sperm, not eggs released into the water column), and some brood externally in mucus pouches on the surface of the female colonies. When released these larvae settle close to the parent colony. Asexual propagation, however, is often the main method of reproduction in many soft corals. Branches or buds extend from the main colony, and once established they separate from the parent colony.

Above: Egg Cowries eating soft coral; Tritonia nudibranch eating soft coral

Protection and defence. Being sedentary, soft corals are easy targets for predators. To protect themselves, soft corals can produce a range of chemical substances that deter predators, prevent overgrowth by neighbours and fouling organisms, and screen out harmful radiation. Common predators are the egg cowrie, *Ovula ovum*, that feed on colony surfaces, some damselfish and butterflyfish that eat individual polyps, and some nudibranchs that feed exclusively on soft corals and gorgonians – many mimicking the form of the colony perfectly. Some of these nudibranchs incorporate pigments from the prey, plus recycle the zooxanthellae for their own use!

Distribution and threats. Despite their lack of reef-building capacity, octocorals are an important and diverse part of reef ecosystems. The abundance of soft corals is predominantly controlled by the physical environment, including sedimentation, amount of light, wave and current exposure and steepness of reef slope. Soft corals with zooxanthellae are mostly restricted to warm waters above 18 degrees C (with a maximum in the low 30s), only those lacking zooxanthellae are able to grow in temperate cold or deeper waters. Bleaching can occur in soft corals with zooxanthellae if the water temperature rises only 1-2 degrees above the usual average for a few days. As with hard corals (and all other marine ecosystems), soft corals are threatened by global warming, destructive fishing practises and terrestrial run-off.

Note that identifications have been done from photos, so use as a rough guide only!

Reference: *Fabricius, K. & Alderslade, P. 2001. Soft Corals and Sea fans. A comprehensive guide to the tropical shallow water genera of the central-west Pacific, the Indian Ocean and the Red Sea. AIMS, Townsville, QLD.*

Below, top row: Sarcophyton species: Sarcophyton species polyps retracted; Deflated Neptheid.
Below, bottom row: Black coral showing simple unbranched tentacles; Soft coral showing polyps with 8 tentacles

Row 1: Flower soft coral; Acanthogorgia species; Heteroxenia species. Row 2: Siphonogorgia species; Clavularia species showing 8 feathery tentacles; Dendronephthya species. Row 3: Menella species; Acabaria species; Nephtheid family. Row 4: Ellisella species; Paraminabea species; Possible eggs inside soft coral

Exploring A New National Park

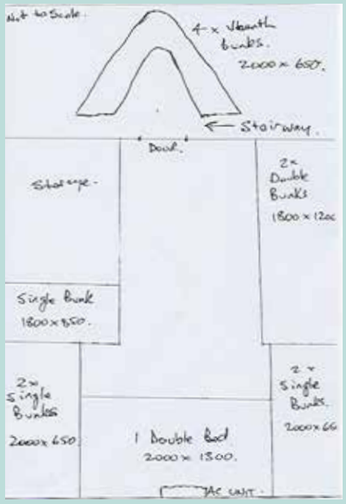
by Amanda Blanksby

The Abrolhos Islands were declared a National Park in July 2019, to coincide with the 400-year anniversary of the Dutch navigator Frederick de Houtman's sighting of the Abrolhos.

Given limited overseas and interstate travel due to COVID restrictions, and a keenness to explore more dive sites than just those in Cockburn Sound, a group of 12 scuba divers and underwater photographers chartered the 'Aussie Warrior', for a six-day trip to the Houtman Abrolhos Islands.

The vessel is managed by Abrolhos Island Charters (www.abrolhosislandcharters.com.au) with Dave McShane as the owner, skipper and host for the trip. We also had a cook/deckie Aleisha and a divemaster Alix.

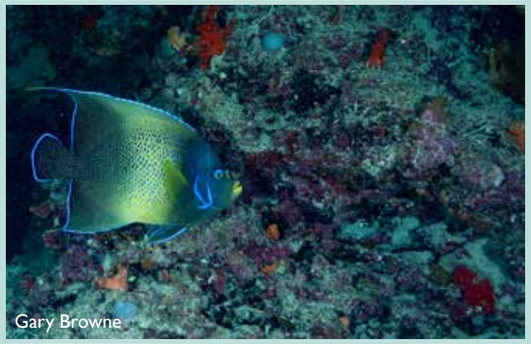

Rusty Geller



The 'Aussie Warrior' is not a flash liveaboard vessel. Let us take you on a tour. There is a large dive deck which is also used for camera set-up, chill/chat time and for all meals. There are a couple of toilets/showers off the main deck. You then head into the wheelhouse with some comfy seats and the galley. Stairs lead down firstly to the V-berth sleeping area at the front of the vessel (this sleeps 4) and then turning 180 degrees down more stairs into the main sleeping area – with four bunk beds, two double beds and a single bed that felt like a coffin (a narrow bunk which did not look the easiest to get in and out of!).

Given the sleeping arrangements there was not much privacy nor the real opportunity to have some down time. Some of the group brought swags and chose to sleep on the dive deck, hence the fourth use for this space!!


Tammy Gibbs


Gary Browne


Lauren & Tony Bensted


Tammy Gibbs

The vessel is also not set up as a dedicated dive boat with few locations to secure tanks. The compressor is on the deck as well, filling tanks from early morning 'til around 8 or 9pm at night. Hence, limited solitude when on the dive deck. Dave worked hard each day re-filling tanks, which we all 100% appreciated.

The islands are located 60km offshore from Geraldton. We left slightly later than normal to allow the swell to drop off a little and prepared ourselves for a rough trip outwards. It wasn't too rough in the end, and the humpback whales kept us entertained on their southerly migration with sightings of fin slaps, flukes, breaching or just simply taking a big breath.

We started at the Easter island group diving some of the famous sites like Rootail Reef and Anemone Lump. The pick of the dive sites here was Coral Carpet where we had stunning clear blue water, great vis and beautiful sloping reef with lots of plate corals.

Day three, we sailed further north to the Wallaby group. We did look at the Batavia wreck site but there was too much swell for comfort given it is a shallow site at around 7m deep. For the diving around this group of islands, the visibility was not as good - with the water having a green tinge to it - and some of the sites showed signs of human impacts with areas of damaged coral. At Fish Point dive site, we could hear the whales singing underwater… which is always beautiful to hear.

Day five, we sailed back to the Easter group with the Albundie dive site again providing beautiful clear blue water and stunning reef. On day six, we sailed to the Southern group and did two dives on Coral Patches, another stunning dive site with healthy staghorn corals at around 18m deep and schooling dhufish and spangled emperors. Swimming upwards, the reef changed to being more plate corals and a large school of buff bream added interest in the shallows.

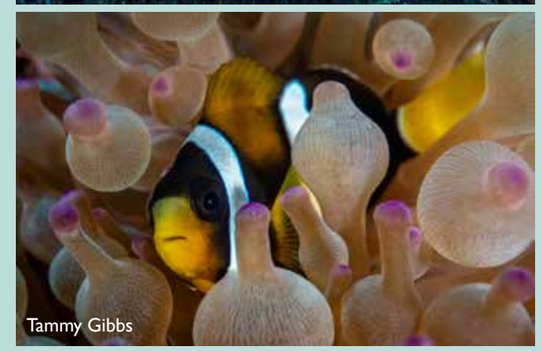
The ecosystem seemed to be missing those smaller fish which tend to hang out in amongst the staghorn and plate corals. However, it could have been the time of year, as we were there in late August. What we all enjoyed though was the abundance of clown fish. We saw them on every dive and they are always fun to photograph given their natural and inquisitive behaviour. There were also plenty of crayfish hiding under ledges.

The water temperature was 20 degrees so some of us dived in 7mm wetsuits, some 5mm and others in drysuits. And as is often with a drysuit, there were a few leaks or incidents which meant some of the drysuit divers reverted to the trusty wetsuits.

Despite the close quarters, we all found our space in some form or another and had a fun trip with lots of giggles. Big thanks to Gary Browne for organising it!


Gary Browne


Lauren & Tony Bensted


Tammy Gibbs

Under Cockburn Sound

by Mary Gudgeon

In February 2020, WAUPS members were invited to display images taken around Fremantle for the Paint the Port event held by the Port of Fremantle. The images were submitted, printed, and were put up at the event. However it was cancelled at the last minute due to COVID restrictions. We looked at other ways to display the images and two venues were inspected but were not acceptable.

Following discussions with the Maritime Museum staff, we were offered a stunning space in the Shipwreck Museum from June 19 to September 19. More prints were done, and the exhibition finally happened! It was a huge success and following the exhibition the museum expressed interest in WAUPS doing another exhibition next year (dates yet to be confirmed). The museum staff suggested we look at photos taken along the Western Australian coast from Exmouth to Esperance and thereby naming our next exhibition.

Some of the WAUPS gang at a visit to view the exhibition.

Many thanks to all the WAUPS members for submitting images, to Ross Gudgeon for all the printing, Gary Browne and Viv Matson-Larkin for hanging all the originals at the Port of Fremantle and to the Maritime Museum staff for all their assistance. Special thanks to Gill Harrison, Pey-Sue Lye and Jim Cook and all the wonderful Shipwreck Museum volunteer staff. Plans are underway to turn the exhibition into a hard cover book for sale and a slideshow to run at the Shipwreck museum.

Call-out to all 'nudi' lovers

Passionate underwater photographers wanted!

by Vivien Matson-Larkin

Fellow citizen scientists, we need your help to document these amazing creatures. Snorkelers, beach goers rock-pooling, and divers will join forces across Australia and overseas for another sea slug census in March. Dates are yet to be confirmed, COVID restrictions and weather conditions permitting.

Sea slugs could be an early indicator of how our environment is changing due to water temperature and availability of food. Building up a catalogue of images enables scientists to determine whether the same species are around at the same time of the year, seasonal differences in their distribution, and their diversity.

Two Sea Slug Census groups held their latest nudi hunts in January - Coffs Coast (22nd-30th) and Melbourne (28th – 31st). For quite a while now both groups have been photographing nudis at different times during the year to monitor and track any changes. If interested in other Census activities check out the Sea Slug Census group on Facebook. Then get on and out there, maybe find a new undescribed species.

PIXELS 2021

Congratulations to the overall winner of PIXELS 2021 - Shannon Earnshaw! Shannon entered all of the six PIXELS themes over the year, scoring one gold, three silver and one bronze. The rest of the top five were - Gary Browne (second), Mary Gudgeon (third), Ross Gudgeon (fourth), Brad Pryde (fifth). Throughout 2021, 22 members participated in PIXELS and 78 images were judged. Well done to everyone who took part and was awarded a gold, silver or bronze.

Congratulations to Shannon Earnshaw and Kathleen Wilton, awarded Gold in the second half of 2021.

2021 Open Portfolio winner *Tammy Gibbs*

2021 Open Novice winner *Jason Milligan*

Shooting for the Stars

By Matt Smith | Images by Kathleen Wilton

There is more in the night sky than your eyes can see and from April through to October, the Milky Way season is upon us. The Milky Way is best seen when there's no moonlight and you're away from bright city lights. What you're looking for is a band of cloudy or dusty looking light that stretches in an arc from the south east to the south west. It looks like a cloud, but it's actually billions of stars that make up the Milky Way Galaxy, our home in the Universe.

To capture the Milky Way Galaxy, setup your camera on a tripod and point it towards the south. Choose a wide angle lens with an aperture between F2 – F4, and turn the auto focus off. You'll then need to set you focus manually. To do this, set the focus distance on the lens to infinity and dial it back slightly until the viewfinder is sharp.

Determining your ISO will take some trial and error. Start your ISO at 1600 and work it through to 6400. As the night gets darker, you'll need to keep checking your ISO settings as it will change.

To get enough light onto the sensor, the camera needs a long exposure but the sky is still moving. So set the shutter speed to 15 seconds, any longer and the stars will begin to blur or trail.

To avoid additional blur from yourself or the wind, remove the camera strap and use a remote or app to trigger the shutter release. Alternatively, if you don't have a remote or an app just set a 2 second timer delay.

Now it's just a matter of finding the best position and angle to get your shot. If you have a close foreground, try experimenting using a dull torch to light it up. The best places will be further out of the metro area, and try to find something you can use as a feature subject to give your images interest.

One thing to be mindful of, if you're going out with a group, light pollution from torches and camera's can appear in images. So it's important to communicate when you're about to turn lights on.

Enjoy your winter evenings!

Northam Photowest 2021

by Leanne Thompson

Northam was the location chosen to host the annual WAPF Photowest event as the town was meant to hold the National Ballooning Championships in 2021, but like many events it was cancelled due to COVID. However, a few intrepid WAUPS members still braved the below zero temperatures and the incredibly early hour on the Friday morning to take a dawn balloon ride. For those who haven't had the opportunity, it is stunning to float over the canola fields with the early morning fog and mist, and everyone ended up with some beautiful photographs as a reward.

Dawn the next morning also saw participants photographing balloons, however this time from the ground in a crazy game of chasey as we tried to track the balloons in the particularly thick fog. The fog was so thick the ballooning mini-buses were having trouble finding which field their passengers were in.

The presenters for the weekend were predominately portrait photographers with workshops allowing the participants to see how other photographers achieve great shots of that most difficult subject – people.

The PrintWest competition results are also announced at the event and WAUPS yet again put forward 15 mono and 15 colour images, with an outstanding 9 mono images and 1 colour image making in into the top 100 print round. As the award presentation part of the event rolled around, there was a few surreptitious fingers being crossed from the WAUPS table. The year before WAUPS had won the colour category, came second in the mono and been crowned the overall winning club. I'm sure I wasn't the only one hoping we could do it again.

2022 yet again saw us in the awards, with a clear win in the mono category, 7th in the colour and, for the second year in a row, overall winner. The mono win netted us a $1800 Epson printer (thanks Team Digital). We keep raising the issue of a perpetual trophy to ensure our glory is immortalised, but so far no one has taken us up on it. My image of a fox in snow also managed to take out the people's choice award. A super successful and enjoyable weekend!

PrintWest Finalist Images

Amanda Blanksby

Tammy Gibbs

Ross Gudgeon

Gary Browne

Mary Gudgeon

Leanne Thompson

Tammy Gibbs

Amanda Blanksby

Ross Gudgeon

Brad Pryde

WAUPS PINBOARD

VIDEO COMP

Congratulations to Rusty Geller, winner of the 2021 WAUPS video competition.

Monthly Dive and BBQ

We've had a lot of members turning up for our recent dives. It's great to see so many members getting together to enjoy a dive and social BBQ and chat afterwards.

Thanks to Mary and Ross for organising the catering and theming the table - check out the photos from Christmas, Halloween and Australia Day.

Golden Snapper Award

This award is all about club participation – attending meetings and monthly dives, volunteering at events, entering competitions, giving club presentations, writing magazine articles, and so on.

For the second year in a row, the winner of the Golden Snapper Award is Jenny Ough! Congratulations Jen for being a great club contributor!

HYPERBARIC CHAMBER TOUR

by Ross Gudgeon

In January last year, we were fortunate to have Professor Ian Gawthrope from Hyperbaric Medicine Unit at Fiona Stanley Hospital as our guest speaker. Ian gave an extremely interesting and informative talk on the hyperbaric chamber and hyperbaric medicine. He then invited the club on a tour of the chamber.

Due to Professor Gawthrope's professional and teaching responsibilities, we were unable to tour the chamber until later in the year. After an initial delay when the tour had to be cancelled because the chamber operator, Russ Cronin, was put into isolation due to a close COVID-19 contact, we finally managed the tour on 12 August. As we had some spare spots on the tour we invited five members of the UWA Underwater Club to come along with us.

The night started with a tour of the compressor room and air banks, an explanation of the control panels and an examination of the one-man chambers. Rob Namestnik was the only member brave enough to get in one of the one-man chambers and have a little lie down.

The main event of the evening was a dry dive in the main hyperbaric chamber. This was very large with plenty of room left for both club's members plus a lot more. It even had its own loo! On entering the chamber we were presented with a table full of party balloons, sparkling wine and glasses but it was no party. All these items were to demonstrate Boyle's Law and how bubbles and gas volume were affected by changing pressure. The glasses had rubber membranes stretched over the end to simulate an eardrum.

The chamber was taken to a pressure of 180kPa (equivalent to 18m of seawater). As the pressure increased the balloons shrunk in size, the bubbly went flat and the simulated eardrums were forced to the bottom of the glasses (clearly demonstrating why we need to equalise our ears when descending on a dive). Other effects of increased pressure were our voices got very high pitched and the chamber got very hot (clearly showing what Charles' Law is all about). At this point we blew up some more balloons before returning to the "surface". As the chamber pressure was returned to one atmosphere the bubbly got its bubbles back, the simulated eardrums returned to normal (although one did rupture on the way down), the balloons inflated under pressure grew in size and eventually burst, and the chamber got cooler.

Many thanks to Professor Gawthrope and Russ Cronin for giving up their evening for us. Hopefully that will be the last time we end up in the chamber.

PARTING SHOT

I love octopuses by Rob Namestnik

In January 2021, my friend Andrew Marriott and I dedicated a couple of days to diving off Busselton jetty and investigating new dive spots on the SW coast. On one of these dives from the jetty, I came upon this inquisitive fellow, keeping a keen eye on us. It highlighted the trust the octopus had in us – and how we were respectful of him. It kept sticking its head up, just observing what we were up to. We were only taking photos. I wonder what it made of all our activity?

Over the years of SCUBA diving I have always been intrigued by the various personal traits exhibited by octopuses and the way they respond to humans. And this includes their amazing ability to change their skin's colour and pattern, and the degree to which they tolerate us observing them and poking around their homes (but not them!).

I remember on one of my first dives (after qualifying) asking the dive master about the accumulation of shiny objects around certain pipes and holes on the sea floor. I recalled his reply vividly "Oh, you have found an octopus's garden". It was a light bulb moment as a similar garden must have been the motivation for the Beatles song Octopus's Garden. It was this type of moment that has contributed to my curiosity of all things underwater from that point onward.

I love octopuses!

Olympus TG5 camera, Olympus PT-058 housing, f2.3, 1/100 sec, ISO 100, natural light (depth 8 m)

WESTERN AUSTRALIA UNDERWATER PHOTOGRAPHIC SOCIETY

waupsnews@gmail.com

The Western Australia Underwater Photographic Society (WAUPS) is a non-profit organisation, which was established in January 1984.
The aims of the Society are:

- To promote an improvement of underwater photography amongst its members.
- To promote underwater photography in the community.
- To encourage an understanding and preservation of the marine environment.
- To promote an exchange of skills and ideas from within the society and from external bodies.
- To have fun and enjoy socialising, diving and photography.

WAUPS holds monthly meetings which include guest presenters on a range of photography and diving topics along with a digital show-and-tell of images from members.

We hold regular competitions including an annual day dive shootout, annual open and novice portfolios and image of the year competition, and a range of trips and social events during the year including monthly photo dives.

WAUPS members also get membership to the WA Photographic Federation and can participate in their events and trips.

Anyone interested in underwater photography is welcome any time including all levels of experience.

WAUPS meetings are conducted at 7:30pm on the FOURTH TUESDAY of every month.

Find us on Facebook

www.waups.org.au