

SDFSA Newsletter – MARCH 2020



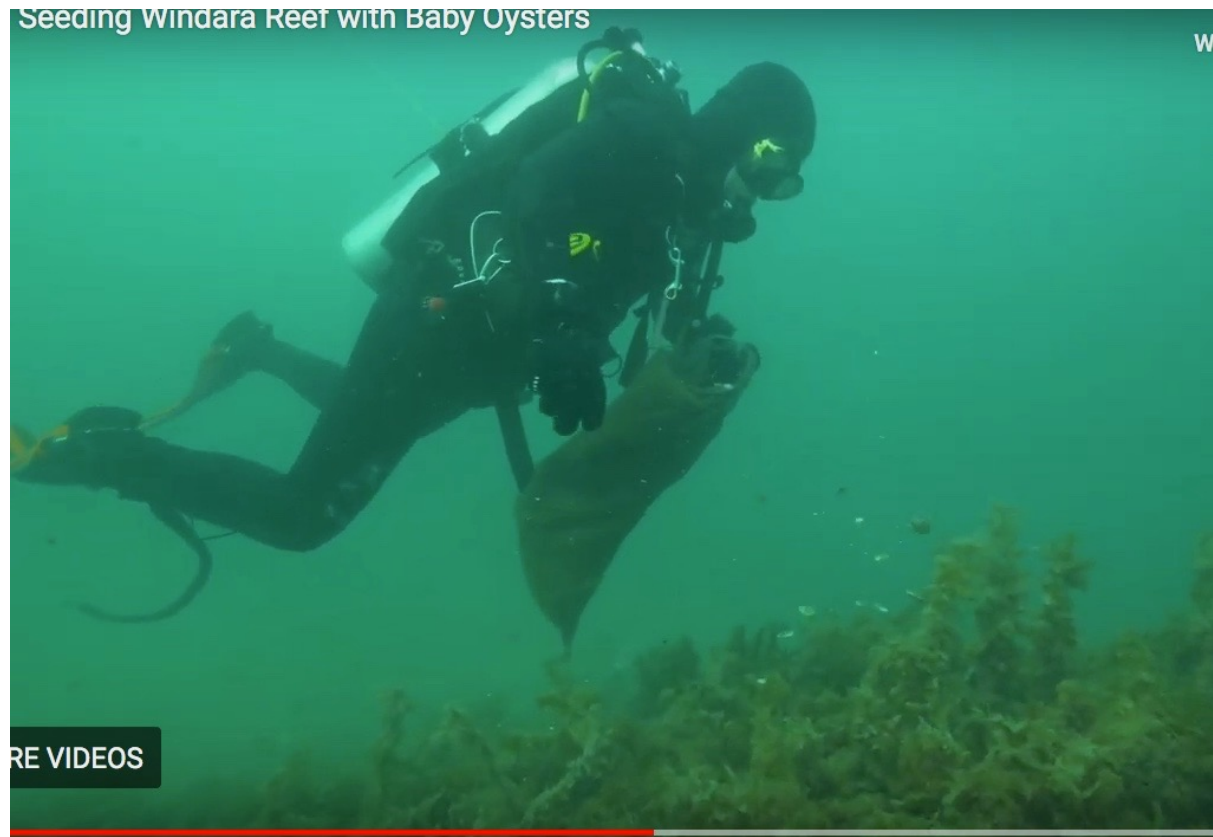
SCUBA DIVERS FEDERATION OF SA, Inc.

Email: info@sdfsa.net

Web: <https://sdfsa.net>

Facebook: <https://www.facebook.com/scubadivesa/>

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Screen shot, Nature Conservancy video of Windara Reef: <https://www.youtube.com/watch?v=sVTXJ5BFKPI>

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OUR LEAD STORY: PROGRESS ON NEW SHELLFISH REEF

Planning has begun for a new shellfish reef just down the coast from Adelaide. Two hectares of reef will be constructed of limestone and recycled shellfish with the possibility of increasing the size at a later date. Three locations are under review: Glenelg, between the Glenelg jetty and West Beach boat ramp; O'Sullivan Beach, between Christies Beach and O'Sullivan Beach boat ramp; and Port Noarlunga, between Port Noarlunga jetty and the Onkaparinga River mouth, within the Encounter Marine Park Port Noarlunga Sanctuary Zone.

The original oyster reefs that provided habitat for a robust fishery for South Australia were decimated in the 1800s and early 1900s due to overharvesting and dredging. In 2014, the State government committed funds to reintroduce shellfish reefs as one of several approaches to revitalize the marine environment for fishing and tourism. The Windara shellfish restoration reef at Ardrossan on the Yorke Peninsula, the first of its kind in South Australia and now the largest outside of the United States, has made the case for the role of artificial reefs in habitat restoration and the reemergence of native oyster beds.

In partnership with the State, The Nature Conservancy held several community consultations this February to explore each of the proposed locations for a new reef. Sixty people attended the community meeting held at the Christies Beach SLSC, supporting the initiative but with some opposition to the location of the proposed reef anywhere near to the Onkaparinga River mouth in Port Noarlunga, noting that a new structure there may adversely affect popular surf breaks in the area. However, the Port Noarlunga location may have support because it lies within the marine sanctuary zone, a popular snorkel and dive venue with a prohibition on fishing.

The final location for the new reef will be announced later this year. The Scuba Divers Federation of South Australia (SDFSA) will post the information as soon as it becomes available.

For those interested in the science and engineering for shellfish reefs, follow the Australian Shellfish Reef Restoration Network meeting & 11th International Conference on Shellfish Restoration, to be held at Port Stephens, NSW from 17-20th March 2020.

IMPORTANT NOTICES FOR SA DIVERS

SDFSA WILL BE AT SCIENCE ALIVE! 2020

Now in its fifteenth year, this much loved event celebrating science and promoting science study and careers will be held at the Adelaide Showground 7-9 August. **Experiencing Marine Sanctuaries** and **the SDFSA** will have two booths located together, to promote our shared interest in getting young people and their families excited about the science of the marine environment and related career opportunities.

The SDFSA will present information on the history and science of diving, citizen science diving initiatives across Australia, career opportunities that require dive skills, and training programs for divers. EMS will have its wildly popular Virtual Reality experience available. **Be sure to attend this year! And we may be looking for volunteers for our booth as well. Stay tuned!**

APRIL IS GLOBAL CITIZEN SCIENCE MONTH

Go to www.CitizenScienceMonth.org to find events near you, calls to action across April, and projects you can start.

SDFSA COMMITTEE BUSINESS

The Committee is holding a **strategic planning session in March** to review the success of our initiatives this year, including SA Scuba Week, our work with Onkaparinga Council to advance progress on the Port Noarlunga jetty steps and Yankalilla Council on the Rapid Bay jetty platform, and our advocacy with and submission to DPTI on the state of SA jetties. We will be exploring priorities for the next 3 to 5 years, including expanding our engagement of the diving community outside of Adelaide metro, interstate and international promotion of diving in SA and possibilities for a new wreck in metro waters. Draft plans will be circulated to the SDFSA membership for input. The regular meeting (4th Wednesday of every month) may be waived in lieu of the strategic planning session.

CONGRATULATIONS TO:

Dive Log's Vikki Ryan and Leanne Wylie on their efforts to continue DiveLog as an online magazine and keep it relevant to us all. **Check out the new look for the DiveLog website!**

<http://divelog.net.au/>.

2020 EVENTS

South Australia:

- **2020 OCEAN FILM FESTIVAL WORLD TOUR** Saturday 21 March, 7-10 pm, Capri Theatre, 141 Goodwood Rd, Goodwood.
- **SCIENCE ALIVE! 2020** Friday 7 August to Sunday 9 August, Adelaide Exhibition Grounds
- **WORLD FISHERIES CONGRESS 2020** 11 – 15 October, Adelaide: <https://wfc2020.com.au/>.

Interstate/International:

- **The Australian Shellfish Reef Restoration Network meeting & 11th International Conference on Shellfish Restoration**, 17-20th March 2020, Port Stephens, NSW
- **MIDE 2020:** Malaysia International Dive Expo 12-14th June: www.mide.com.my.
- **6th International EcoSummit Conference** June 21-25, 2020, Gold Coast. There will be a session on "Restoring coasts, estuaries and wetlands: large scale science, big data and embracing technological advancement".
- **Australian Marine Sciences Association/New Zealand Marine Sciences Society 2020 Conference:** 5-9th July, Sydney – see <https://amsa2020.amsa.asn.au/>.
- **AIDE 2020:** Australia International Dive Expo 30th July to 3rd August, Sydney: www.australiadiveexpo.com
- **OZTEK CONFERENCE & OZDIVE EXPO 11-12th September 2021**, Melbourne Conference & Exhibition Centre: OZTek.com.au and OZDive.net.au.

HISTORICAL NOTES

3 NEW AIRCRAFT WRECKS DISCOVERED AT CHUUK

Four expeditions to Chuuk (Truk) Lagoon between 2018 and 2019 discovered three new aircraft wrecks – two dive bombers and a torpedo bomber - 76 years after Operation Hailstone. Project Recover used new technology to find and repatriate Americans missing in action (MIA) during WWII. These three planes were part of a massive offensive launched by American attack aircraft on Truk

Lagoon in February 1944. The remains of several US servicemen are thought to be inside the sunken aircraft. Four expeditions were made to the lagoon between April 2018 and December 2019. The on-water search took 50 days and covered nearly 70 sq.km. of seabed. The researchers used a side-scan sonar and underwater drones to spot debris from the three planes, at depths ranging from 30 to 65 metres below the surface. In an online statement, Andrew Pietruszka, an underwater archaeologist at Scripps Institution of Oceanography (and Project Recover's lead archaeologist), said, "After completing archaeological surveys of the crash sites in December 2019, the team is now assembling reports for review by the US government to potentially set into motion a process for recovering and identifying the remains of up to seven crew members associated with these aircraft."

(Source: https://www.msn.com/en-au/news/world/sunken-wwii-bombers-discovered-76-years-on/ar-BB106tWj?ocid=NL_ENAU_A1_20200227_10_2)

SEAWEED SCIENCE STORY for the month

1 billion year-old green plant fossils found in northern China

It was recently reported that "Scientists have spotted in rocks from northern China what may be the oldest fossils of a green plant ever found, tiny seaweed that carpeted areas of the seafloor roughly a billion years ago and were part of a primordial revolution among life on Earth. Researchers said the plant, called *Proterocladus antiquus*, was about the size of a rice grain and boasted numerous thin branches. *Proterocladus*, a form of green algae, was one of the largest organisms of its time, and engaged in photosynthesis, transforming energy from sunlight into chemical energy and producing oxygen."

According to the Japan Times, <https://www.japantimes.co.jp/news/2020/02/25/asia-pacific/science-health-asia-pacific/billion-year-old-chinese-seaweed-oldest-green-plant-fossil> , *Proterocladus antiquus* (thrived) "in shallow water while attached to the seafloor with a root-like structure" and (shared) "the seas mainly with bacteria and other microbes".

The Guardian (<https://www.theguardian.com/science/2020/feb/24/tiny-chinese-seaweed-is-oldest-green-plant-fossil-ever-found>) covered the story in depth: "*Proterocladus antiquus* is a close relative of the ancestor of all green plants alive today," said Qing Tang, a Virginia Tech post-doctoral researcher in paleobiology who detected the fossils in rock dug up in Liaoning province near the city of Dalian and lead author of the study published in the journal Nature Ecology & Evolution. Earth's biosphere depends heavily on plants for food and oxygen. The first land plants, thought to be descendants of green seaweeds, appeared about 450m years ago.

"There was an evolutionary shift on Earth perhaps 2bn years ago from simple bacteria-like cells to the first members of a group called eukaryotes that spans fungi, plants and animals. The first plants were single-celled organisms. The transition to multicellular plants such as *Proterocladus* was a pivotal development that paved the way for the riot of plants that have inhabited the world, from ferns to sequoias to the Venus flytrap.

"*Proterocladus* is 200m years older than the previous earliest-known green seaweed. One of its modern relatives is a type of edible seaweed called sea lettuce. *Proterocladus* represents the oldest unambiguous green plant fossil. Fossils of possible older single-celled green plants are still a matter of debate.

"Plants were not the first to practice photosynthesis. They had an ancestor that apparently acquired the photosynthesis cellular apparatus from a type of bacterium called cyanobacterium. This

ancestor of all green plants gave rise to two major branches, one of them includes some aquatic plants and all land plants while the other – the group to which *Proterocladus* belongs – is made up exclusively of aquatic plants.”

Shuhai Xiao, a Virginia Tech paleobiologist and study co-author, said: “*Proterocladus antiquus* is the sister of the evolutionary great, great grandmother of all green plants alive today.”

ABOUT THE SDFSA...

SDFSA is a non-profit, incorporated membership association dedicated to the preservation and enjoyment of our unique underwater world.

JOIN US FOR FREE:

<https://sdfsa.net/membership-categories/>

The more members we have, the stronger our influence. We serve as a peak body representing the interests of South Australian recreational scuba divers and the related sports of freediving and snorkelling, including the provision of information to government and the general public.

Together we can have real impact on the issues affecting the South Australian diving community.

If you wish to be added to the mailing list for this Newsletter, join the SDFSA!

You can also read about the Federation’s work in monthly issues of DiveLog Australasia, Scubadiver ANZ and on our website at <https://sdfsa.net>. Stay up to date with the latest news through our Facebook page, <https://www.facebook.com/scubadivesa/>.

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PO Box 287, Christies Beach SA 5165

Email: info@sdfsa.net

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