

**T**he first ones start to appear in early May, as the southern hemisphere autumn fades away and the winter months loom. Initially they just blend in with the abundant seagrass and, to the casual observer, there is little to indicate what will happen over the next three to four weeks...

But as June approaches and the water temperature drops below 17°C, things change rapidly as the full aggregation is triggered. And, by the middle of month, tens of thousands of *Sepia apama* will have gathered in the only known 'dense aggregation' of spawning cuttlefish in the world. One that has been called the 'premier marine attraction on the planet'.

And this all happens just off from a rocky beach, in an area of about 1km<sup>2</sup>, on the western side of South Australia's Spencer Gulf. Various scientific studies indicate the 'density' in that small area can

reach as high as one giant cuttlefish per one square metre!

It certainly is unique, and at a personal level, is probably my favourite marine animal aggregation in the world and this year was my sixth trip there. It is that special, after all... where else can you shore-dive in less than 8m of water with tens of thousands of incredibly photogenic creatures all completely focused on one single thing – sexual reproduction.

#### **The giant Australian cuttlefish**

*Sepia apama* is the world largest cuttlefish and when fully-grown can reach up to half a metre in total length and weigh in at up to 11kg. Solitary animals, they are found all around the coastline of southern Australia – from Central Queensland on the east coast, right around the bottom of the continent and up to Ningaloo Reef in Western Australia.



*Here be*  
**GIANT**

They are truly fascinating creatures and have an amazing ability to instantaneously change their colour and skin texture - a skill they use to great effect as camouflage when they are hunting or being hunted, to communicate with other cuttlefish and as part of the amazing displays they use to great effect during the mating season. Giant Australian cuttlefish are also remarkably intelligent and are said to have the largest brains of all marine invertebrates.

Both male and female cuttlefish have relatively short life cycles of between one and two years and interestingly, *Sepia apama* are polymorphic... Which means they


## Scuba Diver Senior Travel Editor Don Silcock ventures off South Australia in search of breeding aggregations of giant Australian cuttlefish

Photographs by Don Silcock

have two alternate development cycles, with the first cycle using a 'growth spurt' over their initial seven to eight months to reach maturity by the end of their first summer and be ready to mate at the start of winter.

The second cycle involves much slower growth where they don't reach maturity and mate until they are in their second and final year.

Although not scientifically proven, the most-probable reason for the alternate cycles is that it is nature's way of hedging bets. So that if a catastrophic event occurs one year, there is a backup population that can still breed the following year. ▶



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### Nature's swingers...

Come winter, most of the cuttlefish abandon their solitary lifestyle and aggregate together to mate in small groups of up to ten individuals, with females greatly outnumbered by the males who have to compete for her attention.

Outside of the winter mating season the ratio of males to females is around 1:1. Why it changes so dramatically when they do mate is not known, but the end result is one of the reasons the Spencer Gulf aggregation is so spectacular. The correct term for cuttlefish mating is polyandry – which means that each female cuttlefish will have multiple male partners to ensure better genetic variability of the species.

All of which makes sense from a somewhat dry scientific perspective. But when observed in practice with so many cuttlefish gathered together and the females outnumbered by as much 11 to one, it takes on a completely different dynamic. 'Spectacularly promiscuous' would probably better describe the almost-wanton behaviour!

Adding to that dynamic is the fact that those mature bull males in their second year of life will be dead by the end of the aggregation. Whether they know that is not clear, but they certainly act like they do!

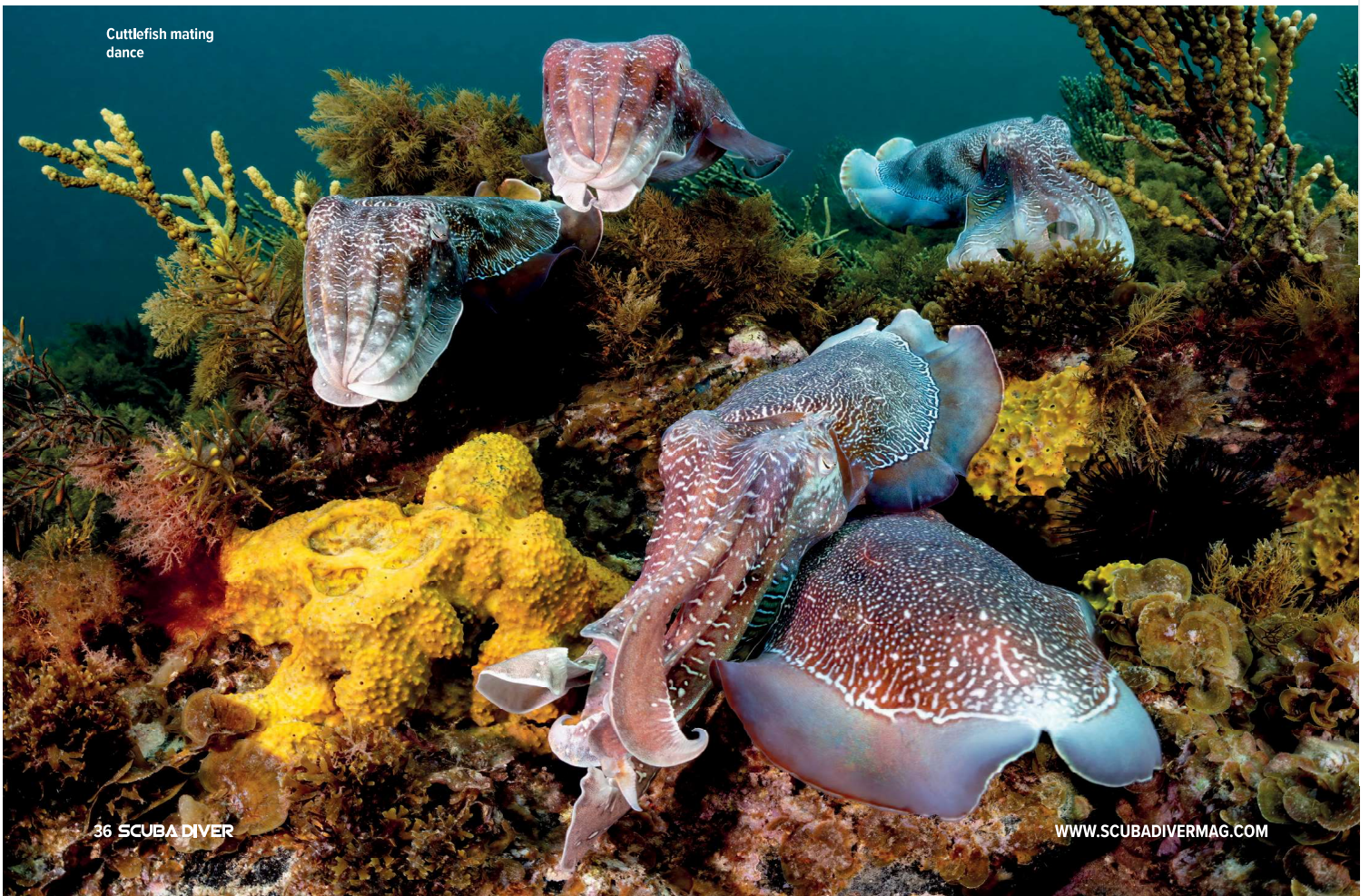
I know you should never assign human characteristics to animals but, as a male who has much less time in front of me than is behind, I cannot help but to watch all this interaction with a deep sense of irony...

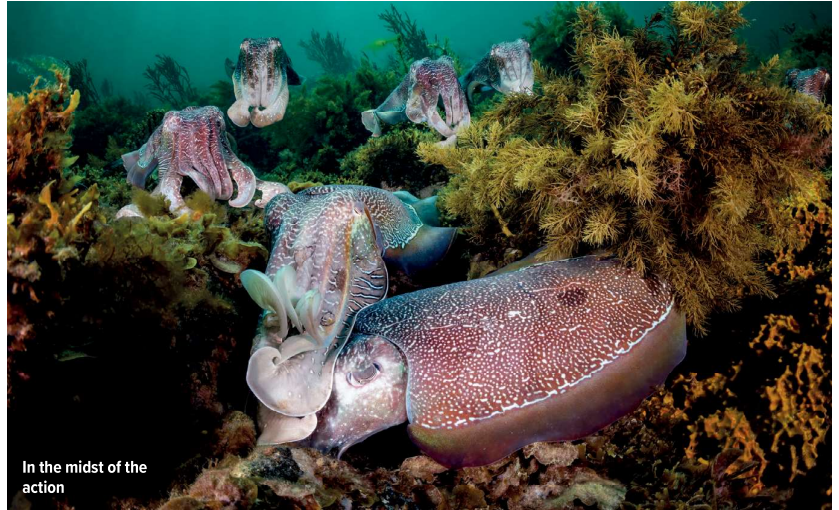
The cuttlefish are impressive creatures



“ ...the young males take advantage of their similar size to the females and use the Cephalopod equivalent of cross-dressing by changing their displays to look like a female ”

Cuttlefish mating dance





### Immersion

Unless you are lucky enough to know someone locally with a boat, all dives with the cuttlefish are from the shore, which involves entering the water from the rocky beaches of the area. Typically, you will be in a drysuit, because of the cold water and long dive times - so fully weighted up... Add a big camera and the usual struggle to get your fins on can make it all a bit challenging. But once you are in the water, all is forgotten because within ten metres of entering you will see the first cuttlefish and by about 30 metres from shore you will feel that you have stumbled on the underwater version of Sodom and Gomorrah! *Sepia apama* seem to be everywhere and it quickly becomes very clear they all have the same thing on their minds...

Settle in, get comfortable and you will soon be drawn into what is evolving in front of you. For me, the most amazing thing about it all is the way the male cuttlefish almost

completely ignore you! So fixated are they on the task in hand and dealing with the numerical imbalance between them and the females.

For the females, the somewhat-promiscuous nature of polyandry makes it all rather easy. They have their choice of the males and will often swap partners and engage in a 'quickie' with a new arrival!

### Strategy and tactics – cuttlefish-style!

The intense competition created by up to 11 males chasing one female produces some wonderful strategies among the various cuttlefish. Being almost completely ignored, while able to observe and photograph it all so closely, is the really amazing thing about the annual aggregation.

For the older, fully mature, male cuttlefish – the bulls – their basic strategy is to impress with their size and 'displays'. If it works and he has an interested female, the bull will try and keep her out of sight from all the other males which, when successful, makes the pair look like a bit like a happily married couple content in their own company.

But when other males do come calling, the bull has to judge the situation and respond in a way that intimidates the challenger and sends him on his way. That usually leads to both males engaging in quite spectacular 'face-off' displays of aggression, with rapid changes of colour and body movements that are believed to send specific messages.

These 'bouts' can go on for up to 20 minutes or so, but while they appear hostile and violent there is rarely any real physical contact. ►

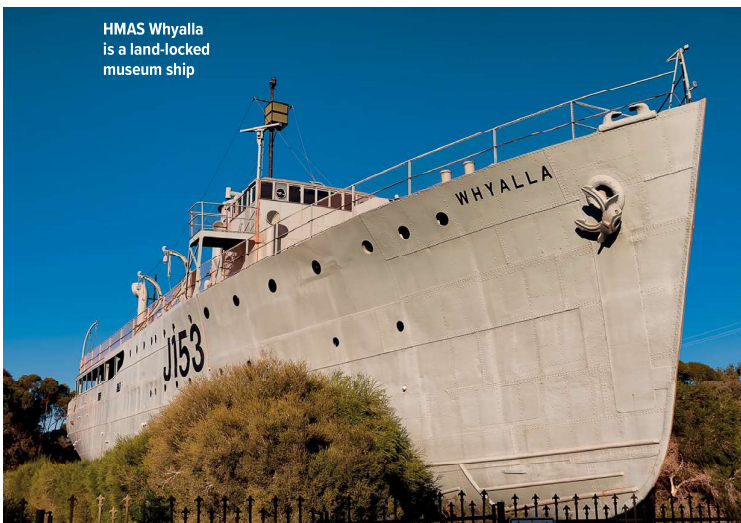




Love, cuttlefish-style



Cuttlefish posing for a portrait



HMAS Whyalla is a land-locked museum ship

“ They have their choice of the males and will often swap partners and engage in a ‘quickie’ with a new arrival! ”

It seems to be more like a cross between shadow boxing with a bit of mild wrestling and I sometimes wonder if the real purpose is to impress the female!

Often the confrontation will attract other mature males who will make their presence felt but rarely enter the fray and it does seem like they are just trying to catch the female’s attention. All of which brings another wry smile to my face as my memory drifts back through time to my teenage years in the northwest of England, but the less said about that the better...

### Where does it all happen?

The annual aggregation is concentrated along a 6km long stretch of the eastern Spencer Gulf generally called Point Lowly. However, because over a third of that area of the coast is occupied by a gas treatment plant and out of bounds, the 3kms between Black Point and Stony Point is where all the encounters take place.

The easiest access point is at Stony Point, which is usually referred to as the Fence Line because of the boundary fence to the gas plant. To make it all much easier for visiting divers, the local council have built a car park with a nice area to kit up and a very welcome toilet facility. They have also created a much safer pathway down into the water so there is much less chance of stumbling and falling.

The nearest town is Whyalla, which is a 25-minute

drive to the south and has lots of options for food and accommodation. The local dive shop, Whyalla Diving Services, is very well equipped for tank rental and fills, plus anything else you might need. And the owner Tony Bramley has done a tremendous amount of work to raise the overall awareness of just how special the annual cuttlefish aggregation is.

### Final words...

South Australia’s annual aggregation of giant Australian cuttlefish is truly unique... Being able to shore dive in about 8m of water with so many interesting, photogenic and totally committed creatures is really pretty special and something that will stay with you for a long time afterwards.

It happens at Point Lowly like it does because the substrate and sea grass provide the perfect place for the females to safely deposit their eggs. But cuttlefish are a valuable commodity and it’s not that long ago that greedy fishermen almost wiped out the aggregation. It now looks like the wheel has turned and the incredible value of so many wonderful creatures gathering has been finally been recognized!

Each year, more and more people come to Point Lowly to see the aggregation, which should keep the local and state governments engaged and protect the event. Let’s hope so – it’s very special! ■