

polyp

### **Message to The Reader**

The publication of *Polyp* is the result of the efforts of many dedicated and talented people.

The story was prepared as part of an educational programme linked to the new marine exhibition at the Western Australian Museum in 1984, and involved a large number of primary school children in a project to illustrate the story.

The attraction of the book is due to Geraldine Carlin's ability to animate a coral polyp and at the same time, provide factual information on the life cycle of corals in an entertaining manner. The excellent illustrations, add a special appeal to the book, and are testimony to the artistic skills of the many school children involved in the project.

The coral polyp is a tiny limestone producing animal which actually builds coral reefs. Understanding the life cycle of the coral polyp, and its interaction with other Reef inhabitants, will help young readers to understand the mechanisms responsible for the construction and maintenance of our Great Barrier Reef.

The Great Barrier Reef Marine Park Authority is committed to the belief that management of the Great Barrier Reef Marine Park is best achieved through the education of the community, thereby increasing their appreciation and understanding of the Great Barrier Reef. This book is published in the hope of fostering this understanding.

The Great Barrier Reef Marine Park Authority is delighted to be able to publish *Polyp* and offers the book as part of its contribution to International Youth Year.

# polyp

Geraldine Carlin

Paintings by children  
from Western Australian Primary Schools





Check Loon Tan, age 12, Rostrata Primary School

'Goodbye! Goodbye!' called the voices, growing fainter as the planula drifted away. The water was warm and sparkling, and all around him other planulae swarmed in the gentle current.

The planula was a little surprised. He couldn't remember how he had got there, and he didn't know what he was anyway.

Drifting towards them, trailing long, graceful, glistening threads was a beautiful bell.

'How beautiful!' he thought. 'I wonder if I'll grow up to be one of those?'

Suddenly the water was filled with screaming. Whenever the threads touched any of the planulae, they were stung to death, wriggling and twisting in agony.

His little swimming threads threshed wildly as he swam out of the way.

'Well!' he thought. 'I hope I'm *not* one of those. But what *am* I?'





Jason Bilston, Year 6, North Balga Primary School

On he went, drifting with the current. A fleet of tiny glass-like prawns danced through the water.

'How beautiful!' he thought.  
'I wonder if I'm one of those?'

The dancing creatures skipped among the swarm, snatching planulae one by one, and gobbling them down.

'Well!' he thought as he swam away.  
'I hope I'm *not* one of those.  
But what *am* I?'



Tracey Scott, age 11, York District High School

Shimmering and darting, a school of tiny bright fish flashed overhead.

‘How beautiful’, he thought. ‘I wonder if I’m one of those?’

The lovely tiny fish darted down, snapping up victims till less than half the planula swarm was left.

‘Well!’ he thought. ‘I hope I’m not one of those. But what *am* I?’





Katrina Williams, age 12, Kalamunda Primary School

Below was a carpet of blue and red flowers.

‘How beautiful’, he thought.  
‘I wonder if I’m one of those?’

As the swarm drifted among them, the long petals of the flowers whipped out and closed over dozens of the planulae, dragging them into the open mouths that gaped in the centre of each flower-like anemone.

‘Well!’ he thought. ‘I hope I’m *not* one of those. But what *am* I?’





Ashley Jolley, Year 4, North Balga Primary School

The current grew stronger, pulling him down to the deep dark water. He could feel cold and danger reaching out to him.

'Don't go!' he yelled. 'Swim for your lives!'

He threshed his swimming threads. He was on the very edge where the current was weakest, but still he had to struggle to swim clear. All the others were pulled down into the cold dark.

'Well!' he thought. 'I still don't know what I am, but I do know I don't belong down there.'



Lisa Bainbridge, age 11, East Hamersley Primary School

He was very tired. He was so tired  
he could hardly move his swimming  
threads. Right in front of him  
was a branching red coral, with tiny  
polyps waving their tentacles from  
tube homes.

'Perhaps they'll let me rest for a  
while. They look nice and friendly.  
I wonder if I'm one of them?'  
he thought.

The coral polyps shouted and  
waved their tentacles angrily.

'Go away! Wrong kind! Go away!'

'Well', he thought, 'I'm certainly  
not one of *them*!'





Ramon Rosito, age 9, Rostrata Primary School

He swam on, more and more tired.  
Everywhere he tried to rest polyps  
shouted and drove him away.

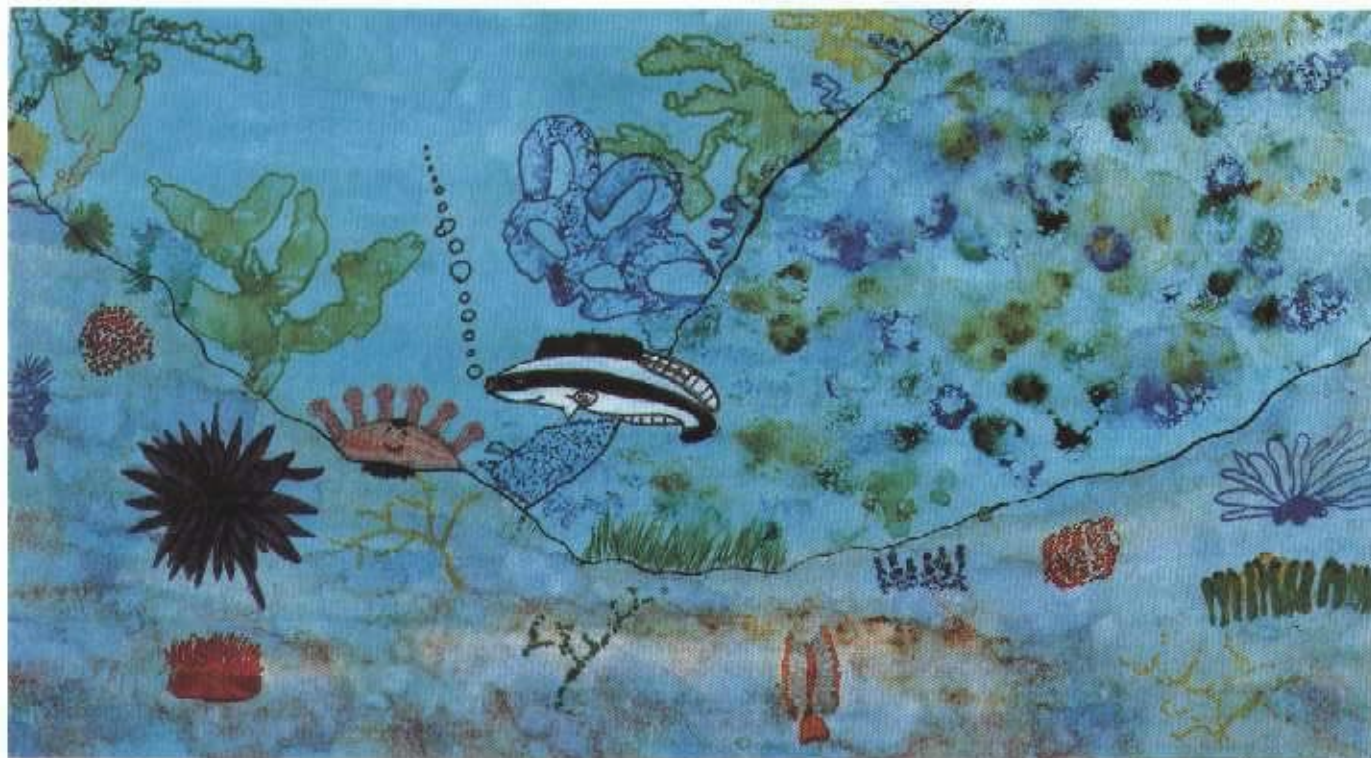
'Wrong kind! No room! Go away!'

Not one kind, red, blue or yellow;  
round, flat or branching, would let  
him stop and rest.

He had been swimming for more  
than a week.

Just when all his strength was  
almost gone, he landed on a small  
bare rock. He was too tired to go  
further. He was even too tired to  
wonder who he was. He just went  
to sleep.





Anne Meredith, age 10, Sorrento—S.P.I.C.E.

‘Well well! So you’ve moved in, have you? House will be going up soon, I expect.’

The voice woke him with a start. A big round eye was looking at him. The eye belonged to a slender little striped fish with a set of sharp nipping teeth.

'I was just resting for a while',  
said the planula, looking more at  
the teeth than the eye.

'In fact, I think I'll be on my  
way.'

'I'll be surprised if you can,' the  
teeth grinned.

'Planulae usually don't go anywhere  
once they settle down.'

'But I have to go! I have to  
find out what I am!'

He threshed his swimming threads,  
but he couldn't move.

He was stuck to the rock.

The teeth sighed.

'We all have to settle down  
sometime. You can't go on being a  
planula all your life. You have  
responsibilities now.'

Planula stopped struggling.

'Responsibilities? What do you  
mean, responsibilities?'

The fish darted away, circled round  
the rock and came back with a  
flick of his striped tail.

'Just checking for customers.

Now where was I? Oh, yes,  
responsibilities. Look, while you  
were a planula it was all right just  
to drift around, enjoying life.  
Now that you've begun to be a  
coral polyp you've got to start  
building. A good steady job,  
building. Why, in a few years' time  
this area could be a first-class  
housing estate, if you take your  
responsibilities seriously. Have  
to go. There's an angel fish just  
pulling in. Bet she wants her gills  
cleaned. Big responsibility,  
running a cleaning station.'  
He darted off, fins fluttering,  
tail flicking and little teeth  
snapping.



Belinda Sparkhall, age 11, Winterfold Primary School

The planula sat and thought. He hoped the cleaner fish would come back and tell him more about this responsibility business, but it was busy with a stream of customers, and seemed to have forgotten him. He was firmly stuck to the rock. His swimming threads had disappeared and he had grown tentacles around the mouth at the top of his body.



‘At least I have a name. Polyp. I know what I *am*. But what does a coral polyp *do*?’

Just then he noticed a tiny brownish ball floating in front of him.

‘Hello, Polyp’, said the ball, politely.

‘I was wondering, seeing no one else has moved in yet, if you’d let me share with you.’

Polyp was astonished.

‘I haven’t even begun to build yet’, he said.

The ball sat down carefully on one of the tentacles.

‘That’s just the point. You see, I’m a special sort of plant cell. If you let me share with you, right inside your body, I will make it easier for you to make the limestone for your building. I’ll even share the food bill. Anyway, I would be paying rent as well.’

‘What sort of rent?’ said Polyp.

‘Oh, the usual kind, colour. See the yellow coral on the next rock? One of my cousins moved in with that polyp when he started out, and now he’s got apartment houses going up everywhere. Yellow is such a common colour, though. I thought of paying you in pink.’

‘You mean, if I give you a home, you will help me to build and colour me pink as well?’

‘Yes’, said the brown ball, ‘and I guarantee you won’t even know I’ve moved in.’



Kutriya O'Rourke, age 10, East Hamersley Primary School

A few days later Polyp noticed that his house guest was right. He was able to build quickly, and soon had a neat little limestone tube to hide in during the day. At night, when he extended his tentacles to feed, they were a beautiful rose pink. However, one thing worried him. A lump was growing on his side. It grew bigger and bigger, day by day. Soon it was nearly as big as he was.

‘What ever is it?’ thought Polyp.

One day, while he was watching it, little tentacles began to unfold. They were pink, just like his.

‘Why’ cried Polyp. ‘It’s another me. I’m budding polyps!’

And so he was. As fast as one began to build its tube, another polyp started to bud. Before long there were so many that they all had to build a new floor and move upstairs, leaving the old walls

and foundations behind. Soon there was a whole apartment block of pink coral where before there had been just Polyp. As the coral grew, other tenants moved in. Tiny fish, crabs and shellfish made homes in the spaces between the branches. Beautiful feathery tube worms and feather stars flowered like gardens. Sometimes butterfly fish would swim by and nip off any polyps they saw, and once or twice a parrot fish chewed up a whole branch, but generally the building went ahead well. Polyp was proud.

‘Such a well-built housing estate’, he thought. ‘At this rate, I’ll become a really big reef builder in no time.’





Simone Jenkins, age 12, Wanneroo Primary School

Polyp was asleep in his tube when it started. He woke suddenly, with screams for help ringing in his ears, and looked out. Moving slowly towards him was a huge grey shape, covered with orange spines. Each arm had hundreds of tube feet underneath to grip the coral tightly. Worst of all, underneath its body was a mouth, and through this mouth the creature had pushed out its stomach.

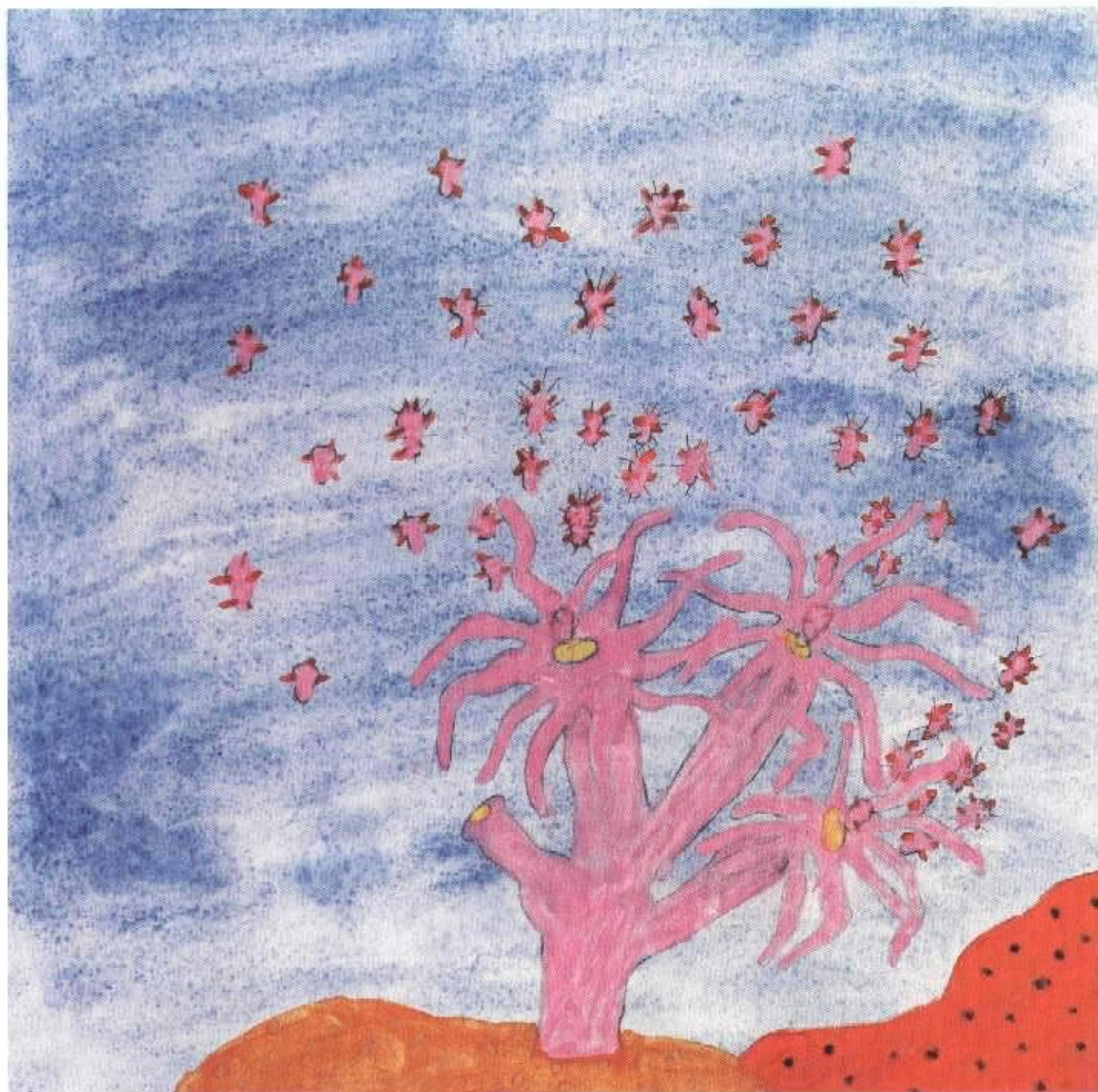
Juices from the stomach ate alive any polyps it touched. Slowly it moved, arm by arm, eating the living coral, and where it had passed only dead, empty, white coral was left.

A Crown of Thorns starfish!

Creatures which could move scurried from its path. Others, like the coral polyps, were eaten. Closer and closer it came. It came so close Polyp saw one tube foot cling to the opening of his home.

The screams of dying polyps were all around him, but at last they faded into the distance as the awful creature moved on. For a long time Polyp hid in his tube. When at last he looked out, he could hardly believe his eyes. Nearly all the pink polyps had gone. All the other residents, fish and shellfish, had moved to other homes. Only the empty skeleton of his housing estate remained.





Joanne Visaggio, age 12, Winterfold Primary School



It took Polyp a long time to grow enough polyps to start again, and to persuade his other tenants to move back. When at last it was done, and the rosy pink coral again branched out into the warm sparkling water of the reef, Polyp started a little plan he had had in mind for some time.

‘Budding polyps is all very well, but they can’t go anywhere. Here they all are, bits of me, never moving from the same rock I settled on when I was a planula so long ago. It’s about time I did something about it.’

‘I’, said Polyp, ‘am going to make a planula. A planula can travel the seas and it can start a new reef somewhere else.’

Polyp had thought out his plan well. He grew an egg sac inside his body, and a sperm sac as well. Day by day the egg sac swelled, tighter and tighter. When both sacs were just right, he let the sperm float out

into the water through the mouth at the top of his body.

The egg sac burst, and out popped tiny eggs, which floated into the water too.

All over the colony other coral polyps did the same.

Sperm in the water from other polyps found its way into the eggs, just as Polyp had planned.

Slowly the eggs grew and changed. In two or three days they grew swimming threads, and buzzed busily around in the water near the colony. Soon there were thousands of planulae swarming together in the warm, sparkling water.

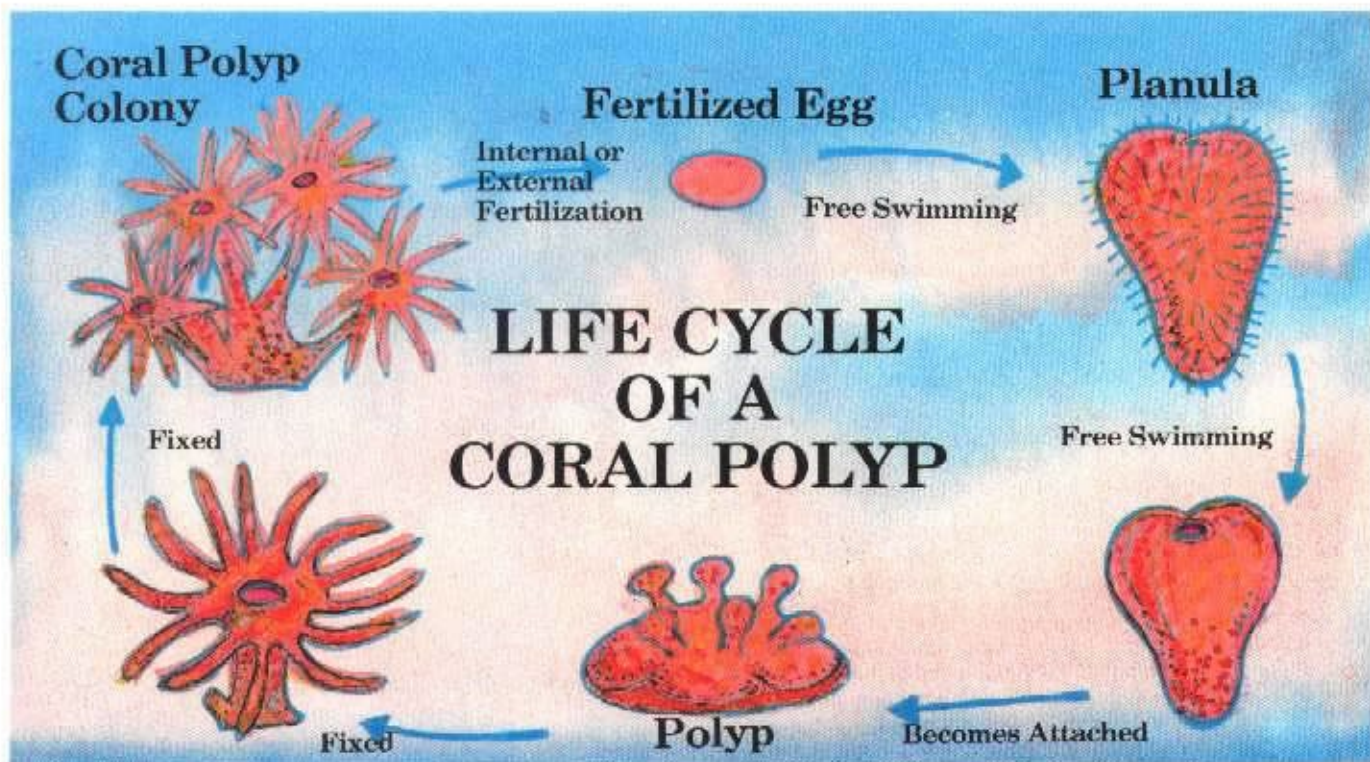
Then Polyp knew it was time.



Renee Franceschi, age 9, Wanneroo Primary School

'Goodbye!' called Polyp as the planulae drifted slowly in the current, further and further away.

'Go and find out who you are. Goodbye! Goodbye!'



Illustrator: Peter Will

NOTE: The latest scientific research on coral reproduction indicates that the fertilization portrayed in the POLYP story (i.e. internal fertilization) is not the most common.





**Great Barrier Reef  
Marine Park  
Authority**