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F I N A L I S T S

'Antofagasta's piure: identity lost'

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When I was nine, I loved walks on the rocky shores of Antofagasta. Still do. I remember stepping on strange mats of algae-covered 'living rocks'. Water would squirt. It was simple fun and it made me happy. But now all those organisms are gone. What happened?

As I grew, I learnt that those living rocks were an ascidian named *Pyura praeputialis*. Also called piure, it's a staple of the rocky shores of Antofagasta Bay. These barrel-shaped, filter-feeding tunicates form dense aggregations in the shore, closest to the sea. Between them, a maze of dark and moist corridors gives shelter to many other invertebrates. They are ecosystem engineers. But they weren't always part of that ecosystem.

Genetic studies show that our piure is, in fact, an invasive species from the distant shores of Australia. Its story is Antofagasta's story too. It was the mid 1800s and Antofagasta wasn't more than a few houses in the middle of the coastal desert. Then the salitre boom began and many people began to settle in the growing city. Not only Chileans, but foreigners as well. Croatians, Greeks, Italians, English, Chinese and many others came looking for opportunities. It is theorised that, in one of the many ships that arrived in Antofagasta, ascidians also arrived, attached to hulls. And somehow they managed to colonise their new environment. So, as immigrants built their houses, an Australian family built theirs too. They thrived, unfazed by the comings and goings of human fortune.

Decades passed. Local fishermen learnt that not only was *Pyura praeputialis* excellent as bait, but a delicacy too. And with that, the exploitation began. Vast swaths of piure were extracted and sold in ever increasing amounts. It was too much for the very sensitive ascidian population. Their larvae are short-lived and need adult organisms nearby to settle. Without settlement there aren't new individuals and the populations rapidly decline.

Another issue is that *Pyura praeputialis* is, for conservation purposes, an invasive species. So no management or conservation plans for them, even when their role as an ecosystem engineer supports more biodiversity than their native counterpart, the mussel *Perumytilus purpuratus*.

Today, I'm 33, and the vast expanses of piure of the past are gone. The native mussels are recolonising their former ecosystems, so it's not all bad for local biodiversity. But the loss of a unique species, so intertwined with the history of Antofagasta itself, is an alarming tale. We need to do better. We need to work on management plans and save the piure. Not only for ecological and economic purposes, but because it's part of who we are as people of Antofagasta.