

The Dunes of Àrd-Dhìthreabh



Wim Vanderbauwhede

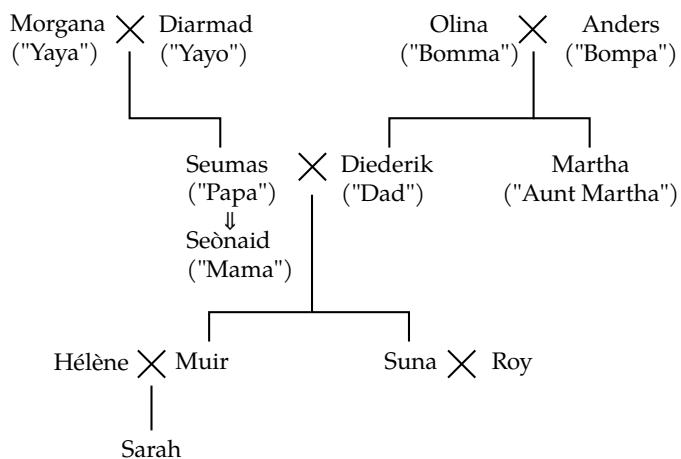
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Family tree



Location map



Chapter 9. Summer

Àrd-Dhìthreabh, July 2062

A few days after Beltane, a message had come from Dad. It was an ordinary letter, on paper, and it contained only a single sentence:

When the *fionnan geal* flowers on the machair
and the morning tide is at its lowest,
I'll look for you in Àrd-Dhìthreabh.

That read like a genuine cryptic Dad message. "I bet you didn't send something like this to Muir", Suna thought, but she smiled. How like Dad to do something as whimsical as this. She looked at the envelope. Postmarked in Inbhir Èireann, on the day of Beltane. Suna's smile broadened. So he had been to visit Yaya first. How sweet.

Dad had no way of knowing when the *fionnan geal* would flower, so Suna guessed he'd come to Àrd-Dhìthreabh and stay there until it did, and watch the tides. They both liked that delicate flower, which was more commonly known as grass-of-Parnassus, and flowered from June onwards. It was rather rare on natural machair but on the lime-soil dike at Àrd-Dhìthreabh it grew abundantly. So Dad would probably be here from early June, and look out for her when the tide was low. She checked the tide tables in June and found that the first low spring tide before noon would be right on the summer solstice. How neat. And mercifully, the low tide would be close to noon. There would be no need to get up especially early.

And so it came to pass that on the day of the summer solstice Diederik met Suna on the dike at Àrd-Dhìthreabh. Suna saw him approaching over the crest of the nearest dune, skidding down at a reckless pace, throwing up a tall plume of fine sand in his wake. She started down the embankment to join him. At the foot of the dune he checked himself and walked towards her with long, measured steps, smiling broadly. "Suna-chan!" he cried, at the same time as she called out "Dad!", and they flew in a tumultuous embrace. He swirled her round until they were both dizzy and collapsed on the sand.

Diederik led her over a pass in the seaward dunes and through a dense maquis of sea buckthorn. The branches were covered in small yellow-green flowers and new leaves; in a few months she'd be collecting the berries again. They entered a wide round valley hemmed in on all sides by the bushes. The sand at the bottom was covered thinly with short grass. There were a few old concrete posts and other pieces of old stonework and some old enamel pots under a sheet of rusty corrugated iron.

"Here is where I did my experiments," Diederik explained. "I had stumbled across the fungus quite by accident in the lab, researching bacteria to digest plastics. There was a section of the lab that was being refurbished and it had a lot of exposed concrete. One day I noticed that blotches had appeared on, like a dark mould. It couldn't be mould though, and they had appeared almost overnight. So I took a sample and that's how it started. I generated many varieties of the fungus using the gene editing facilities in the lab, and tried them out here. Most of them did nothing. Some of them actually protect the concrete, that's why some of those posts are still intact. Others destroy it. The fungus infection does really break down the concrete quite rapidly: only a few years after I'd finished, while I was still in jail, the old concrete wall that protected the Ardeer works had already completely crumbled. But somehow at the time nobody paid any attention to that. They probably just put it down to poor quality concrete."

"I've wondered about something for a long time," Suna said. "When you were doing this, you must have been thinking about the consequences, right?"

"Definitely, and not just me. We debated for many long hours. But in the end we felt that not doing it would be worse."

Suna shook her head quickly, "That's not what I mean. What I mean is, you could assume that relatively few people would die when a bridge collapsed. But when a building full of people suddenly collapsed, there would be a lot of casualties. And even worse if a large dam broke."

Diederik nodded. "I see, yes, I thought about all those things. The others didn't ever bring this up, I think they didn't want to put

even more weight on my shoulders. But I had many sleepless nights over it, until I discovered that the fungus needs ozone to work. I didn't engineer it that way, but I found out that it worked like that. That was a huge relief. The concrete of bridges and airport runways is obviously a lot more exposed to ozone than that of buildings. So it was very likely that the bridges would fall first and serve as a warning. Also, we didn't leave the fungus to spread by itself. We basically seeded the airports and also contaminated long-haul road transport. I explained the mechanism to the others and I'm sure they were equally relieved, at least Yaya and Mama were. As for the dams, I had made a study of all the large dams and what would happen if they broke. But it turned out that most of them are not concrete at all, they're mostly just earth. Also, the concrete of a dam is of course partially under water. So it would degrade much slower than a bridge. I reckoned that no dam would break until long after it was clear what was happening. But I still wanted to try and avoid it. The biggest problem as far as I could see was the Three Gorges dam, as that is made of concrete and a breach would be a disaster on an enormous scale. So I studied the type of concrete they'd used, and I was in luck. The concrete of the Three Gorges dam was made with something called fly ash, a coal combustion product. When they built that dam, they had plenty of that from their coal-fired power stations and they used it instead of cement. It makes for a very suitable construction material for such a dam. So I got hold of some fly ash concrete and with trial and error I found a strain of the fungus that would degrade cement-based concrete but not fly-ash-based concrete. Some old fly-ash concrete structures would survive, but that was fine by me. Of course none of the more modern concrete structures use fly ash, as we're no longer burning coal. And even historically, cement-based concrete was more popular. So it was a small proportion. I never told anyone this. I wanted to avoid the endless discussions about weakening the impact of the action and all that, and I thought it was mostly my responsibility and my conscience."

"You paid very dearly, didn't you, Dad?"

Diederik smiled wanly, "It's not enough to know you're doing

the right thing.” He considered for a while. “Still, if I hadn’t done this I would never have made a trip like the one I set out on, and it has left me overall with a positive outlook. Humans are resilient. We are going to get through this and afterwards it will be better for everyone.”

“But I do miss my parents,” he added forlornly.

Suna put her arm around him. “We are all very glad to have you finally back with us, Dad!”

They sat side by side high up on the slope of a dune overlooking the beach. The sun was setting and though it was still high in the sky, the spectrum was shifting towards the red, bathing everything in a golden light. The tide had come in and with it had come the gannets. At low tide they had been mere specks, far off and indistinct in the shimmering atmosphere. Now the flocks had moved in with the flood, and the air was clear and limpid. Incessantly they dove into the sea, throwing up fountains of spray. If you looked closely, you could see them surface, sometimes still swallowing a fish, shake their wings and take off again into the skies.

Suna imagined what it would be like to be one of those gannets. Soaring really high, she would be able to look over the whole magnificent dune system of Àrd-Dhìthreabh, all along the wide sweep of the bay. And she would see the two small figures sitting high up on a dune, looking back at her. Would she wonder why they were there, when the rest of the beach was deserted? No, she’d simply rejoice in just being, without conscious thought. Oh, to be such a bird!

Diederik seemed to guess her thoughts and said,

“Birds find succour in the high heavens.”

Suna recognised the quote. How like Dad to quote from an old anime at a time like this. She replied:

“Fish hide in the deep waters.”

Smiling at the memory, at peace in the present, they watched the sun go down behind the mountains of Eilean Arainn.