



UNTIL I READ A FASCINATING ARTICLE ABOUT THE PLACE, I HAD always thought of Sardinia as just another Mediterranean holiday destination; all boats, beaches and package tourists broiling in the summer sun. That article, however, changed my mind. It talked about a strange race of small brown people who lived, if not forever, well beyond the three score years and 10 that the Bible encourages us to expect. In fact, the inhabitants of a cluster of remote villages in the mountains of central Sardinia are two or three times as likely as any other people on earth to reach 100. At one stage five of the world's 40 oldest people lived there, including the world's oldest man, Antonio Todde, who died aged 112. Which is perhaps why Sardinians greet one another with "A kent'annos" – "May you live to be 100." There are towns there that resemble open-air retirement homes, with more people over 80 than under 18; and the men are almost as likely to reach 100 as the women. Except no one really retires – many of them lead extraordinarily active lives even in extreme old age.

What is their secret? Is it some "longevity gene" inherited from their mysterious Neolithic ancestors, the nuraghe-builders whose curious stone fortresses still stand sentinel on hilltops around the island? Is it their frugal diet of organic produce, high in antioxidants, such as the resveratrol in Sardinia's potent Cannonau wine? Is it the legacy of a life of hard physical work in a pristine stress-free environment far from the smokestacks of industrial Europe? Does God have a hand in it, as many Sardinians believe? Is it their attitude to life, a cheerful determination to cope with whatever comes along? Or the warm bonds of family life, the caring communities in which they live, where the old are accorded respect rather than ostracised in nursing homes?

With my partner, photographer Mayu Kanamori, I spent two months in 2007 travelling around Sardinia interviewing centenarians. In our quest for the secrets of their longevity we talked to 24 of them, the oldest a wonderful woman who was celebrating her 109th birthday. We also met a centenarian winemaker, a centenarian folk dancer who insisted on demonstrating his fitness by standing on his head, and a woman planning her 100th birthday who was keen to nip out to the local cafe for a drink with her new toy boy, a sprightly young blade of 67. Their ages totalled 2432 years.

There are four places around the world where scientists have become excited about abnormal longevity, borne out by reliable records. The current contenders for the Fountain of Youth award are the tropical island of Okinawa in southern Japan, some frigid fishing villages on Canada's wild Atlantic coast, a gentle nut-eating community of Seventh-Day Adventists in California ... and Sardinia. For many years, scientists have been studying these populations to try to work out what magic combination of genes and lifestyle may be responsible for their extreme longevity, and for the remarkable number of people there who live to 100.

Of the four, Okinawa has been studied the most rigorously – and promoted the most vigorously. Twin brothers and gerontologists Drs Bradley and Craig Wilcox have sold hundreds of thousands of copies of their Okinawan diet books, emphasising the "low caloric density" of meals consisting of rice, stir-fried vegetables and bean-paste soup. By contrast, in the Nova Scotian towns of Yarmouth and Lunenburg, scientists have focused on genetic abnormalities in their close-knit populations. As for the Seventh-Day Adventists, they are eight times more likely to live to be 100 than other Americans, thanks to their vegetarian diet and prohibition of smoking and drinking. But of all these groups, the Sardinians are the most mysterious.

ARZANA IS A NONDESCRIPT TOWN ROOSTING 500 METRES UP ON THE SIDE of a hill in the poorest and most isolated region of Sardinia, itself one of the more impoverished parts of the European Union. But there is one thing, apart from its perfumed plump *porcini*, in which Arzana takes great pride. At least once a year, sometimes more often, the postman comes knocking

Seeking the Fountain of Youth? Head for central Sardinia, where the locals are two or three times more likely than other folk to reach 100. Ben Hills went there to investigate the secrets of a long, long life.

Photography
Mayu Kanamori

with an embossed certificate of congratulations from the Pope for those dutiful Roman Catholics who attain their century – and just about everyone in these God-fearing parts is a dutiful Catholic.

Raffaele Sestu is the local doctor. Over the years he has had 15 centenarians as his patients, and says that in 2006 this tiny town boasted four people aged over 100, 49 people over 90, and 100 over 85. In other words, one person in 20 (perhaps as many as one in 10 if my suspicions about the true current population are correct) has outlived by a decade or more the normal human life expectancy. Even more remarkably, almost half of the centenarians are men; elsewhere in the world women outnumber them five or six to one.

There are 15 other little villages scattered around the mountains within half an hour's drive of here that form the heart of what scientists have dubbed the "Blue Zone", which has a greater concentration of centenarians than anywhere else in the world. At last count, in a district population of 49,000, there were 18 centenarians; that's 37 per 100,000, double the rate of the United States, Europe or Australia. No one really knows why this should be so, in spite of the millions of dollars that have been thrown into a decade of intensive scientific study.

Sestu could not be prouder of any of his patients than the woman the whole town was waiting to honour the day we visited. Her name is Raffaella Monne, and she is one of the oldest women in the world. She has lived in three centuries and today, this rainy day in May, is her 109th birthday. The original plan was for the children to serenade her outside her house, but the wild weather has put paid to that; the venue has moved to the village hall.

The children have made a banner of 109 paper figures. It drapes the back of the hall and reads "Dear *zia* [aunty], Happy Birthday. Don't tire yourself out blowing out the candles – we will blow them out for you." The cake in question, a two-tiered affair with pink and white icing and a "109" candle on top, sits on a table at the back of the hall, along with flasks of *abbamele*, a local delicacy made of honey, pollen, water and orange rind, which Raffaella Monne prepared herself for the children.

Sestu has picked Raffaella up from her house a few streets away and driven her here in style in his flashy new four-wheel-drive. If you are a doctor, it can't be bad for business to have centenarian patients. Always petite (her nickname when she was a girl was *peperoncino* or "little pepper"), but even more so now that age has stooped her back, Raffaella is one of the smallest women I have ever met. As the children crowd around singing "Happy Birthday dear *zia*", some of the 10-year-olds are taller than her. She is dressed in immaculate widow's weeds – they don't make clothes this small so she cuts and sews her own – a black scarf around her grey hair, a black shawl over her shoulders, and a beautiful starched white blouse embellished

Aged to perfection

Top drop: (opposite) Antonio Argiolas, born on December 26, 1906, still goes to work every day at his winery.

with lace and mother-of-pearl buttons tucked into a dark, floor-length woollen skirt. Her eyebrows are arched over alert brown eyes and her mouth is pursed with concentration.

Until a year ago, Raffaella lived on her own just across the road, in an ancient tumbledown house of mud-brick and concrete, with a walnut tree in the front yard. One day when she was 103, Sestu was summoned urgently to the house. Expecting to find her dead or seriously injured, he discovered she had fallen out of the tree while gathering nuts. "It was amazing," says the doctor. "She didn't break anything; in fact she's hardly had a day's illness in her life, apart from a dose of the flu. Just last year she fell over and broke a finger on her right hand – she didn't even call me, just wrapped it up in a piece of cloth and told me about it a month later. Her readings are those of a fit young man: blood pressure 120/80; cholesterol 160; triglycerides 80."

ALTHOUGH RAFFAELA MONNE IS THE OLDEST CENTENARIAN WE HAVE managed to track down, she is physically and mentally one of the most agile, her faculties barely dimmed by her long journey from the past. The year she was born, 1898, Queen Victoria was on the British throne, the Spanish-American War had just begun, the first aeroplane had not yet flown, and the average life expectancy in this part of Italy was under 50.

Gerontologists, practitioners of the relatively young science of old age, have concluded that having a centenarian brother or sister means you are eight to 17 times more likely to reach 100 than anyone else, depending on your gender. In Raffaella's family, there was a grandmother, Sofia, who lived to 107, and a cousin, Rita, who died in 2001 at the age of 101. She was married to a farmer named Angelo Stocchino, her first cousin, not an unusual event in these little villages where the degree of consanguinity – which may, of course, reinforce any genetic aberration – was extremely high.

Her wedding day, Raffaella says with a tear rolling down her cheek, was the happiest day of her life. In 75 years of marriage Angelo "never said a bad word to me – we had a beautiful, happy life together". Her only regret was that they could not have children. When her husband died at the age of 101, not long after their 75th wedding anniversary, he was the third centenarian in the extended Monne family. A few years later Raffaella became the fourth.

So Raffaella has nature on her side but what about nurture – her lifestyle? Like most of the centenarians we talked with, she said she ate "anything". Fruit and vegetables from her garden, milk and homemade cheese from Angelo's flock, and, occasionally, meat – though Raffaella jokes, "I don't know whether it was stolen" because their sheep, goats and pigs were their wealth, and often the only time a shepherd's family saw meat was if an animal died.

Hers was a very physically active life: as well as working the fields and looking after the home, she often had to take supplies to her husband agisting his flock in distant pastures. It was nothing for this small, wiry woman to carry a pack and walk for eight hours along the steep, rough tracks over the mountains, before she upgraded to a horse, which she rode well into her 80s.

She still enjoys a little wine, as she has all her life, usually just half a glass of red before lunch and dinner every day. And afterwards a sip of *filu 'e ferru*, "iron string", the searing Sardinian spirit – so called because peasants still secretly distil their own moonshine and hide it from authorities by burying it in a field beneath a trap door attached to a length of wire.

I ask Raffaella why she thinks she has lived so long. "Good genes are important, of course," she says. "So is hard work and a healthy diet, but..."

"But what?" I prompt her. "*Destino*," she replies. "It was my destiny."

RAFFAELE SESTU IS TELLING US HE IS ALSO CONVINCED THE STRONG sense of community of small towns like Arzana – over the millennia people have learned that co-operation is the only way to survive in the face of outside threats, from the Romans onwards – is a factor in their longevity. Several times while trying to find eccentrically numbered houses in the labyrinth of laneways, we have learned that all you have to do is stop and ask a passer-by the way to the home of Zia Monne – or whoever – and he will not only know, he will drop everything and escort you there in person.

Almost all the Sardinian centenarians, even those who are bedridden and unable to function unaided, are cared for in the bosom of their families rather than being entrusted to professionals in nursing homes. "They all have a very successful family life," says Sestu. "There is a lot of love in their lives, and none of them is afraid of death." Raffaella smiles when she hears this. "You ask me what lessons I have learned in life?" she says. "Be at peace with everybody."

Sestu is convinced that as well as environmental factors – lifestyle, diet, family, clean air, pure granite-filtered water – "there is, for sure, a genetic factor" in Sardinians' longevity. Raffaella Monne is one of more than 1000 Sardinian centenarians who have agreed to give blood samples for a major research project that has been running for a decade, involving Sassari University in the island's north-west and a government/private sector consortium based near Cagliari. Teams of researchers are analysing their genomes to try to identify any mutations that may give a clue to their long lives. The hope is they will be



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Sardinia's golden oldies: (top) Efisio and Silvia Piras. In November, the pair, married in 1922, will join the world's most exclusive couples' club – centenarians who are married to centenarians.

(Above) Raffaella Monne, aged 109. When she was born, in 1898, Queen Victoria was on the British throne.

(Above right) Anna Mattu, born on October 5, 1907, is still energetic and doesn't wear glasses. "Oh yes, I like wine," she says. "Red or white, it doesn't matter, just give me some and I'll drink it."

able to isolate proteins whose release is triggered by their genetic aberrations. These could then be synthesised and used to prevent the main causes of premature death: heart disease, stroke and cancer.

But Sestu is surprisingly diffident when I ask him whether he hopes the secrets of the "long life genes" will soon be unlocked: "They should leave to life its magic and fantasy. We don't need a scientific explanation for everything. In any case, I don't think a protein can ever explain this." Sestu gently pats Raffaella Monne's hand as she looks up into his green eyes. "This is a sort of miracle."

As we leave, I ask Raffaella whether she has any ambitions to try to surpass the record of the feisty Frenchwoman Jeanne Calment, the oldest reliably documented person, who was 122 years and 164 days old when she passed away in 1997. Calment was still riding her bicycle around the town of Arles at the age of 100, loved a drop of port wine, and used to boast, "I have only one wrinkle, and I'm sitting on it."

So does Raffaella think she might outlast her? "Hmmm," she ponders.

"You are still a youngster," encourages Sestu.

"Oh, all right then. I'll go on as far as I can." **GW**

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