

Celebrating island biodiversity



Short-sighted action has concreted over a former groundwater recharge zone, leading to flooding.

The conservation of biodiversity on small islands is fraught with challenges, most of which do not apply to mainland areas and which have characteristics unique to islands.

Ever since the publication in the 1960s of the theory of island biogeography by McArthur and Wilson, biodiversity assets on islands have received increasing attention.

The global island human population is estimated to constitute about 10 per cent of the world's population, with 169 islands having a population of over 100,000, of which 15 have a population of over a million.

In Europe alone, there are around 500 islands larger than 20 km², which add up to more than 70,000 km². This is equivalent to seven per cent of the total surface of Europe. Small islands cover just five per cent of the global land area; yet around a third of world's threatened mammals, birds and amphibians are found only on islands.

Not surprisingly, islands represent between a quarter and a half of all biodiversity conservation priorities, depending on the measure used.

With almost 5,000 islands and islets, the Mediterranean comprises one of the largest group of islands in the world. Strategically located at the very centre of this sea, Malta can be considered the quintessential Mediterranean archipelago, reflecting in microcosm many of the human-biodiversity relations observed elsewhere in the Mediterranean basin.

The biodiversity prowess of small islands is acknowledged in the Barbados Declaration, adopted in 1994 by states participating in the Global Conference on the Sustainable Development of Small Island Developing States.

The declaration states: "Their (Small Island Developing States – SIDS) biodiversity is among the most threatened in the world and their ecosystems provide ecological corridors linking major areas of biodiversity around the world. They bear responsibility for a significant portion of the world's oceans and seas and their resources."

The declaration was adopted, along with the Barbados Programme of Action (BPOA), at the 22nd Special Session of the United Nations, with the latter recommendations for small developing island states in 14 fields, including biodiversity.

Ever since their human colonisation about 7,000 years ago, Malta's biodiversity assets have been subjected to unrelenting anthropogenic pressure, first in the form of clearance of natural habitats for agricultural and grazing purposes, and subsequently in the form of expansion of human settlements which led to progressive urbanisation.

Despite this, Malta still harbours 23 endemic floral species and some 60 endemic faunal plant species. The total number of non-marine species described to date in the islands totals around 2,400, although the total number of such species on the islands is expected to be in the region of 5,000 species. The total number of floral species from the islands is around 1,200 species.

Awaiting discovery

A recently-published study of mine has given an insight into a poorly-known commercial fishery initiated locally 25 years ago. Numerous licences had been issued over the years, ever since the times of the Knights, to various individuals to fish for precious coral in Maltese waters, with many of the interested parties hailing from Sicily (Trapani), mainland Italy (Naples and environs) or France.

In the mid-19th century, Captain Spratt of the British Navy even attempted mapping the distribution of coral resources in local waters. It was in 1984, however, that then Prime Minister Dom Mintoff acceded to the requests by some of his closest aides and gave his blessing to a commercial venture, coined Mediterranean Coral Fishing Company – aimed at exploiting commercial coral species in the Mediterranean.

The institution of such a company also features in the last speech Mintoff gave in Parliament on December 22, 1984. The company left no stone unturned in seeking to harvest precious coral from local waters, even going to extraordinary lengths, such as deploying a midget, manned submarine with hydraulic arms and a converted French navy vessel.

During the 1984-1987 operations, over a ton of precious red coral and about 250kg of black coral were fished from Maltese coastal waters. Today, Malta and Gibraltar are the only two Mediterranean countries which completely ban any form of exploitation of precious coral species.

Even though the company folded after just three years due to non-viability, its activities shed light on the precious coral resources in our waters. Besides the iconic and much-coveted precious red coral (*Corallium rubrum*) which was fished through the use of the Italian bar, mainly off the southwestern coast of Gozo, a species of black coral was also fished in prodigious quantities off Filfla.

The best preserved such black coral example is housed at the Natural History Museum in Mdina, and closer examination revealed that the species in question could possibly be *Leiopathes glabberima*, a species which purportedly can survive for over 2,000 years.

Black coral species have a restricted distribution in the Mediterranean, being known mainly from the northwestern Mediterranean and recently from the Straits of Messina. The complete opposite is true for Hawaii, where black coral fishery and jewellery manufacture is very much the craze.

This specimen lay hidden from public knowledge for over 25 years, despite being fished in huge amounts in the past – who knows what other species are awaiting discovery in our waters?

Groundwater and the need for a common approach

Proposed measure 6.3 of the draft water policy document recently launched by the Ministry for Resources and Rural Affairs (MRRA) advocates the protection of groundwater recharge zones.

These are areas, normally located within valley systems or typified by upper coralline limestone outcrops, where natural replenishment of the aquifer takes place through the gradual percolation of rainwater through pervious rock layers.

The proposal to safeguard such zones is only natural as their obviation would spell the complete starvation of groundwater resources. While it is indeed laudable that the MRRA enshrines the need to protect such resources, the ministry must also ensure that local authorities, such as local councils, are on board so as not to have an incoherent and incongruent directive when it comes to groundwater protection. For instance, what was previously a dirt track/alley on the upper reaches of Wied Has-Saptan in Gudja has been covered in concrete, presumably to facilitate vehicular access into the valley itself and presumably done with the local council's blessing.

As a consequence of such short-sighted behaviour, the lightest rainshowers, as we had last week, result in a grave flooding problem, with no opportunity for the surface water to seep into the subsoil such that it stays put for days on end until it evaporates.

A valuable route for formation of groundwater has thus been lost, all in the name of populist initiatives aimed at appeasing very parochial demands.

Besides the justified call made recently for local councils to walk the straight and narrow when it comes to their financial accounts, one should also ask local councils to start seeking scientific advice before embarking on hackneyed initiatives in their locality.