



Island biocultural diversity in the Mediterranean: the case study of Sardinia

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Abstract

The Mediterranean Basin is a hotspot for biological and cultural diversity, and this is particularly evident in its islands, even though little attention has been paid to their remarkable biocultural diversity. In order to elucidate this characteristic phenomenon, we present a review of the literature on biodiversity and cultural studies in Sardinia. From the review, it has emerged that the island can serve as an excellent case study and a model for the development of a methodology on the topic, which can be applied to the entire Mediterranean Basin. An Island Biocultural Diversity Initiative for the Mediterranean Region has therefore been set up to support the preservation of biocultural diversity and Traditional Ecological Knowledge (TEK) in Mediterranean islands, with Sardinia as its primary hotspot.

Keywords Seascape · Land use · Traditional Ecological Knowledge (TEK) · Genetic diversity · Linguistic diversity · *Mare Nostrum*

Introduction

The unique mode of isolation that islands provide for biological organisms inhabiting them can in time give rise to equally unique forms of life. This is illustrated abundantly in island biogeography worldwide, from the pygmy elephants of Borneo to the Kahikatea trees of New Zealand, and from the Tasmanian devils to *Homo floresiensis* in Indonesia. In a similar vein, insular isolation can in time create unique endemic cultures parallel to endemic species (Hong and

Pungetti 2012). However, being factories that generate biological and cultural diversity, islands are also increasingly vulnerable to both ecological and cultural disturbances. Similar to the effect of alien invasive species on the biodiversity of an island, its cultural diversity can be threatened by non-native influences, often linked to land use changes and over-use of natural resources (Vogiatzakis et al. 2008).

Biocultural diversity, the notion that the biological and cultural diversities in any given area are inextricably linked, has been gaining increasing popularity since its conception (Posey 1999; Pungetti 2013; Bridgewater and Rotherham 2019; Nazari et al. 2023). It is well known that biodiversity

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hotspots, such as the Amazon Basin, Central Africa, or South-East Asia, also demonstrate exceptionally high degrees of cultural diversity (Gorenflo et al. 2012; Maffi 2005). However, little attention has been paid to islands and their generative power of both biological and cultural diversity (Pungetti 2017).

The Asia–Pacific *Island Biocultural Diversity Initiative*, adopted by IUCN as a resolution during the 5th World Conservation Congress (WCC) in September 2012 at Jeju, Korea (Hong et al. 2014), aimed at preserving biocultural diversity and Traditional Ecological Knowledge (TEK) in Asia–Pacific island regions. It has resulted in extensive research and publication of many papers (Hong 2011, 2012, 2013; Okano and Matsuda 2013; Hong et al. 2013, 2018, etc.). The initiative, called “Strengthening Biocultural Diversity and Traditional Ecological Knowledge in Asia–Pacific Island Regions,” was sponsored by the Ecological Society of Korea with co-sponsors from Korea, Sri Lanka, Tonga, and Canada. Since then, international activities related to IUCN have been limited, and none has been implemented in the Mediterranean region. Nevertheless, seminars and symposia on the topic of biocultural diversity, island landscape, and biodiversity are being held at global academic conferences including the International Association for Ecology (INTECOL), the International Association of Landscape Ecology (IALE), the International Geographical Union (IGU), and the Centre for Biocultural Landscape and Seascape (CBLS).

Sardinia as a case study

The Mediterranean Basin comprises thousands of Islands as well as two island-nations: Cyprus and Malta. Apart from Cyprus, the basin has four other large islands: Corsica (French), Crete (Greek), Sicily and Sardinia (Italian). Greece accounts for the largest number of small islands, with others belonging to Italy and Spain, including the Balearic Islands (Spanish). They all have their characteristic islandscapes, with some different endemic plants and animals, and many biotic features in common (Santi et al. 2024).

Among all, the island of Sardinia, due to its distance from the mainland, its rich geological past, the complex history of human migrations, and a vibrant cultural landscape, retains a characteristic and special place in terms of biodiversity and cultural heritage. The signs of Sardinia’s abiotic features are intrinsically linked with its biotic features, which in turn are employed by its native people in their cultural practices. The traditional land use, medicinal, cultural, and linguistic practices are still part of the daily life, and TEK maintains a strong presence in many parts of the island.

As demonstrated by previous studies (Pungetti 2017, 2022; Mattalia et al. 2020), Sardinia is an excellent laboratory for biocultural diversity, and is thus here selected as

the hotspot for studies on Island Biocultural Diversity in the Mediterranean.

Sardinian natural setting

Abiotic diversity From a geological perspective, Sardinia is a fragment of the European continental shelf. Throughout much of its geological history, Sardinia was not part of Italy, but conjoined with Corsica, forming the separated Corsica–Sardinia block (Marchetti et al. 2017). The landscape of the Island consists mainly of granite and Paleozoic rocks in the north-east, volcanic formations in the west-center, and coastal dunes (Bosellini 2017; Melis et al. 2017a,b). The Gennargentu massif (1834 m) in the central eastern part of Sardinia is the highest relief of the island, which enjoys a warm maritime climate with an average temperature ranging from 7 °C in winter to about 25 °C in summer. Rainfall is scarce, and the strong northwesterly winds (*Mistral*) are a part of daily life (Fратиanni and Acquaoita 2017). Apart from the most representative coastal systems, the island hosts high wetland diversity, including many inland natural or human-made farm ponds (Cuena-Lombraña et al. 2021).

Biotic diversity Along with the other continental islands of the Tyrrhenian Sea, Sardinia constitutes a “macro-hotspot” of plant diversity within the Mediterranean “mega-hotspot” (Cañadas et al. 2014; Fois et al. 2022). The flora and fauna of Sardinia are largely influenced by the position of the island with respect to the Italian peninsula and by its geologic history, which determined its biogeographic connection with the *Archipelago Toscano* to the east, with Corse to the north, with the Balearic Islands, Iberian Peninsula, and Morocco to the west, and with North Africa and Sicily to the south. Sardinia thus sits in a unique floral eco-region of its own that is markedly different from Italy, characterized by subcoastal evergreen oak forests with *Quercus suber* and *Q. ilex*, inland deciduous oak forest with *Q. ichnusae*, *Q. virgiliana*, and *Q. congesta*, and *Juniperus communis alpina* scrubs on the Gennargentu mountain summit (Blasi et al. 2014).

Since endemism links often to highly specialized species related to a specific ecological niche, it is no surprise that the unique geomorphological characteristics of Sardinia have allowed the evolution of many endemic plant and animal species over time. According to recent checklists, Sardinia hosts about 350 endemic *taxa*, i.e., 15.82% of Italian endemics as well as *taxa* with wider distribution that are reported in only one Italian region, second only to Sicily (Stinca et al. 2021; Fois et al. 2022). Three genera of vascular plants—*Morisia* (Brassicaceae), *Castroviejoa*, and *Nananthea* (Asteraceae)—with 168 species are endemic to Sardinia and Corsica (Peruzzi 2010; Bacchetta et al. 2012; Fois et al. 2022; Médail 2022). Noteworthy is the presence

of a high variety of species of Plumbaginaceae, 90% of whose taxa in Europe are represented in the Mediterranean basin. Sardinia also appears to be a center of diversification of genus *Dianthus* (Caryophyllaceae), which is highly present in the island with 9 exclusive taxa (Bacchetta et al. 2010; Fois et al. 2022).

The fauna of the Island is also diverse. Wild boars, wild cats, fox, hares, deer, mouflon, buzzards, falcons, golden eagles, red kites, black vultures, and bearded vultures live in the forests, while the plateaus are home to the Giara pony, one of the last herds of wild horses that exist in Europe, and the Asinara Island to the small white donkey (Pungetti 2022). The Anglo-Arabo-Sardo horse with its unique characteristics is native to the Island (Giontella et al. 2020). Numerous species of birds have settled along the coast; for example, pink flamingos can be seen in the many *stagni* (lagoons near the beach), affectionately called by the locals *sa genti arrubia* (the pink people). In fact, Sardinia hosts the highest number of Ramsar sites (9) among all Mediterranean islands (<https://rsis.ramsar.org>). Dolphins, as well as endangered monk seals, can be seen from time to time around the Maddalena archipelago in the north and Capo Carbonara in the south. Among the now-extinct endemic megafauna, one can name the Sardinian dwarf elephant, Sardinian dhole, and Sardinian pika. Among the extant vertebrates, most endemic species are amphibians, including the Sardinian brook salamander *Euproctus platycephalus*, as well as five species of cave salamander (*Speleomantes* spp.) (Corti et al. 2022). Additional Sardo-Corsican endemics include several species of reptiles, frogs, and lizards (Grill et al. 2007). Many species of insects and arachnids are also endemic to the island or to the Sardo-Corsican archipelago, including 14 endemic species of butterflies, e.g., the Corsican Swallowtail *Papilio hospiton* and the Sardinian Blue *Pseudophilotes barbagiae*, which, as most other Sardinian endemic butterflies, are only present on some of the island's mountain ranges (Todisco et al. 2018).

Sardinian cultural setting

Human diversity Historically, Sardinia's position in the center of the western Mediterranean Basin has given it a special status in terms of seafaring and trade routes. Despite documented presence of humans since the Paleolithic, permanent settlements in Sardinia appear to have been established only after the Neolithic (Mercuri et al. 2015). The history of Sardinia is replete with invaders, rulers, and migrants from every corner of the Mediterranean who have at one time or another tried to settle or take control of parts or all of Sardinia. This culturally rich island is dotted with *nuraghe*, ancient megalithic stone dwellings built by Nuragic

civilization that lasted from eighteenth century BCE up to the Roman colonization in 238 BCE (<https://nurnet.crs4.it/nurnetgeo>). But much of the current cultural tapestry of Sardinia is heavily colored by the events of the past two millennia, especially after the defeat of the Vandals by Emperor Justinian and the subsequent creation of the four *Judicados* or *Judexes* (kingdoms) of Sardinia that more or less still correspond to the Island's major linguistic provinces.

Language diversity Language is a key component of human culture, not simply as a means of communication but as a historical repository for a people's relationship with the land, the living natural web, and for entire worldviews (Maffi 2005). The linguistic diversity in Sardinia is truly remarkable: Sardinians today mainly speak varieties of the Sardinian language (Logudorese, Maddalenino, Nuorese, and Campidanese), which is officially recognized by the Italian Republic as a minority language.¹ Sardinian-Corsican varieties (Gallurese and Sassarese) are spoken mainly in the north, while languages of Ligurian (Tabarchino) and Catalan origin persist, respectively, in the south-western end (Island of San Pietro and Calasetta) and in the north-western area of the island (Alghero) (Toso 2012).

Biocultural diversity in Sardinia

With a rich human genetic diversity resulting from a long history of human migrations, Sardinia continues to retain a remarkable biocultural landscape, with diverse agropastoral activities linked to TEK, rituals, animal husbandry, medicinal plants, food, cuisine, and local culture and traditions.

Human genetics and linguistic studies The genetic structure of the Sardinian populations has been extensively studied over the years (Brega et al. 1986; Santachiara Benerecetti et al. 1988; Morelli et al. 2000; Eaves et al. 2000; Angius et al. 2001; Fraumene et al. 2003, 2006; Mocci et al. 2009; Calò et al. 2013; Parolo et al. 2015; Chiang et al. 2018; Raveane et al. 2019), with a particular attention to the linguistic and cultural relationship to other Italian or Eurasian populations (Vona et al. 1996; Zei et al. 2003; Destro Bisol et al. 2008; Robledo et al. 2012; Capocasa et al. 2014). These investigations have uncovered a significant genetic affinity with Early Neolithic farmers from Anatolia and Europe (Sarno et al. 2017, 2021; Sazzini et al. 2020), as well as connections to the Basque people (Chiang et al. 2018) and mainland Italians (Sazzini et al. 2020), frequently accompanied by a considerable degree of genetic admixture (see

¹ Constitution of the Italian Republic, art. 6; Law 15 December 1999/482 (<https://www.parlamento.it/parlam/leggi/994821.htm>).

also Blasco Ferrer (2010) for a synopsis of the Sardinian toponyms of Basque origin).

A genome-wide analysis of ancient DNA from 70 individuals across 21 Sardinian archeological sites, spanning the Middle Neolithic through the Medieval period, has revealed a gradual shift in the genetic landscape of Sardinians. The early inhabitants display a pronounced genetic similarity to Western Mediterranean Neolithic populations, which seems to be followed by a prolonged phase of genetic stability throughout the Nuragic era (2nd millennium BCE). Beginning with the Phoenician/Punic period (1st millennium BCE), the evidence shows spatially diverse indications of genetic admixture with populations from the eastern and northern Mediterranean (Marcus et al. 2020).

The Sardinian gene pool also shows important signatures of natural selection. Genetic variants offering resistance to *Plasmodium falciparum* infection, a parasite endemic to the island until a few decades ago, are found at moderate to high frequencies across the island (Anagnostou et al. 2022). The most studied are those responsible for thalassemia (Galanello et al. 1979), a group of genetic diseases that affect hemoglobin synthesis, and deficiency of glucose-6-phosphate dehydrogenase (Fenu et al. 1982), an enzyme that plays a crucial role in protecting cells from oxidative stress.

Overall, Sardinia can be regarded as a reservoir of genetic traits that have disappeared in current European populations, originating from migrations of ancient populations across the Euro-Mediterranean area. These influences have coalesced into a unique genetic profile, shaped by the island's geographic, linguistic, and cultural isolation, along with the impact of selective pressures on the gene pool.

Ethnobotany, plants, and daily life Numerous studies have demonstrated the cultural significance of plants in Sardinian daily life. Local studies have shed light on ethnobotanical knowledge in Bunnari (Atzei and Drascish Campazzi 1988), Gallura (Atzei et al. 1991), Marganai (Ballero and Fresu 1991), Seui (Ballero and Fresu 1993), Arzana (Ballero et al. 1994), Tempio (Ballero et al. 1995), Perdasdefogu (Ballero et al. 1996), Campidano Valley and Urzulei (Bruni et al. 1997), Monteleone (Ballero et al. 1998), Villagrande Strisaili (Ballero et al. 1999), Fluminimaggiore (Ballero et al. 2001), Sarrabus (Palmese et al. 2001), Gesturi (Loi et al. 2002), Ogliastra (Loi et al. 2004, Foddìs and Maxia 2006, Sanna et al. 2006), Escolca and Lotzorai (Loi et al. 2005), Goecano (Lancioni et al. 2007), Monte Ortobene (Signorini et al. 2009), Barbagia (Mattalia et al. 2020), and Marmilla (Cocco et al. 2022).

Two comprehensive studies have attempted to review all available ethnobotanical data (Atzei 2003; Guarrera 2006). These, alongside other studies that have focused

on the ethnobotanical traditions of minorities in Sardinia (e.g., Maxia et al. (2008); Leporatti and Ghedira (2009)), report over 220 species of plants alone that are consumed as food (Camarda et al. 2017) and many more that are used for medicinal, veterinary, handicrafts, dyes, or for ritualistic and religious purposes (Guarrera 1990; Atzei et al. 1994; Maxia et al. 2013). Modern studies on the phytochemical properties of Sardinian endemic plants have demonstrated their relevance in modern medicine, including in treatment of diabetes and HIV (Sanna et al. 2020, 2023a,b). In addition, historical use of tools made of plant-derived material has been documented in traditional agropastoral activities in Sardinia (Piras 2006). This situation is comparable to that of Sicily, the largest Island in the Mediterranean (Ghirardini et al. 2007; Leonti et al. 2009).

Husbandry and shepherd culture Sardinia is one of the most important agrosilvopastoral landscapes left in Europe, and farming and animal husbandry as the primary mode of life have deep roots in Sardinian culture (Angioni 1989; Pungetti 1995). A peculiar aspect of Sardinian pastoral culture are the *salti*, wooded pastures that were designated for public use since ancient times for the grazing of cattle or pigs and for collecting firewood, with the grazing that was allowed only when the acorns were on the ground (Alias et al. 2008; Centeri et al. 2016). *Chiudende*, a division of the land coming from an edict of the House of Savoy in 1820, also impacted the rural culture of the island, moving from a recognized traditional collective ownership of the pastoral land to private property (Pungetti 1996). Transhumance, now a UNESCO Intangible Cultural Heritage (UNESCO 2021), is still actively practiced in Sardinia (Mannia 2022).

TEK, agropastoral activities, and local cuisine Despite being politically part of Italy, a strongly mycophilic country, Sardinians have traditionally shunned using fungi as food, with the exception of a few species. However, since a few decades, thanks to increasing contacts and influences from people proceeding from continental Italy, Sardinian society has progressively developed an intense interest for mushroom hunting and consumption (Pérez-Moreno et al. 2021). The Sardinian cuisine also incorporates ingredients from numerous local varieties of wild plants and berries and includes many authentic recipes such as the *culurgiones*, *gnocchetti sardi*, and *zuppa gallurese* (Alexander 2000; Oliva 2007; Nazari et al. 2024). Among other endemic Sardinian gastronomic elements are *pecorino sardo*, a well-known variety of cheese made from the milk of the local Sardinian breed of sheep, as well as *mirto*, a popular liqueur obtained by alcoholic maceration of the *Myrtus communis* berries (Motti et al. 2022).

Threats to biocultural diversity

Climate change Even though Sardinia is not in the spotlight in terms of climate change, climate projections robustly indicate that all Mediterranean landscapes will be impacted by the deleterious effects of this phenomenon, including sea level rise, coastal erosion, more frequent and intense floods and droughts, and desertification (Nicholls & Hoozemans 1996; Vogiatzakis et al. 2016; Médail 2017; de la Vara et al. 2020; Torres et al. 2021). Sardinia in particular is predicted to experience a significant decrease of mean annual precipitation and an increase in temperature (Piras et al. 2014; Caloiero and Guigliardi 2021).

Climate change also affects the economic and social sphere in Sardinia, and is tangled with questions such as austerity, depopulation, economic decline, and rural–urban dynamics (Bettini et al. 2021). Effective measures to prevent or minimize the negative effects of climate change consist of adaptation actions, and climate change models show that without adaptation measures, crop production will decrease significantly in the future (2040–2070) (Bird et al. 2016).

Climate change facilitates the spread of invasive species and threatens the survival of many Sardinian endemic flora and fauna, including, for example, the snake *Hemorrhois hippocrepis* (Bombi et al. 2011; Lozano et al. 2024). Negative trends in annual broad-leaf tree cover and positive trend in bushy sclerophyllous vegetation in Sardinia are significant and both correlated with the decrease in mean annual precipitation (Cipolla and Montaldo 2022). Studies show that the leaves of Sardinian trees are gradually becoming smaller due to warming climate and a vapor pressure deficit (Sirigu and Montaldo 2022). With the exception of a few resilient ones, water reservoirs and basins in Sardinia are at risk of extirpation due to climate change and increase in water demand (Piras et al. 2014; Mereu et al. 2016; Sirigu and Montaldo 2022).

Models also predict an intensification of wave climate and a decrease in calm conditions, as well as a change in wave directions, affecting the long-term morphodynamics of sandy beaches and the quality of bathing waters (Pasquali et al. 2023). Projections of the rising sea levels show that many sea-side sites, such as the Phoenician–Punic archeological area of Nora in Southern Sardinia, will be partially submerged by 2100 (Sitzia 2022; Mariani and Melis 2022).

However, it should be noted that the effects of climate change are not always negative. For example, the Sardinian orchids may gain additional suitable habitats by the year 2070 (Ongaro et al. 2018). Similarly, while the ranges of olive trees will expand, the risks posed by their pest, the olive flies, will significantly decrease (Ponti et al. 2009).

Land use and other human activities Human activities, including urban expansion, have undoubtedly affected the landscape and survival of local plants and animals in Sardinia (Leontidou et al. 1997; Pungetti 1995; Pungetti et al. 2008). Extensive deforestation in Sardinia during the last centuries is well documented (Caterini 2013). Vogiatzakis et al. (2005) warned about the slow demise of Cork Oaks, and Fois et al. (2016) questioned the conservation prospects of *Gentiana lutea* in Sardinia. Some studies report that the abandonment of traditional farmland and vineyards in Sardinia (e.g., from Planargia to the Gulf of Oristano and to the Sulcis archipelago) is often followed by impoverishment of soil, desertification, and a notable reduction in the productive capacity of the soil, and even the coastal plains are not spared from this phenomenon (Barbara and Biasi 2011). On the other hand, another study found that since the 1960s, while the total area of agricultural lands has moderately increased in Sardinia, forest cover and human presence have had a “sharp increase,” the latter being linked mainly to an increase in tourist activities (Falcucci et al. 2007). Efforts are also underway to identify and protect areas, artifacts, and elements of Sardinia’s mining activities with significant historical, cultural, and environmental merit (Muntoni et al. 2020).

Tourism The coasts of Sardinia are among the most scenic of Italy and they attract a high number of tourists during summer. They extend for 1879 km, including the minor islands; however, long beaches are rare (Fredri and Lupia Palmieri 2017). Tourism accordingly represents an important source of income and employment in Sardinia. Yet, coastal climate change manifested by sea level rise and changes in modality of wave, rainfall, and wind can impact tourism in Sardinia by altering the region’s climatic suitability for common tourism types or affecting beach carrying capacity and water availability (Köberl et al. 2016; Sulis et al. 2023). In addition, studies have demonstrated the negative impact of the tourist season in Sardinia, for example, on coastal dune vegetation (Pinna et al. 2019) and marine mussels (Moschino et al. 2017).

Discussion

Like many other islands in the Mediterranean, Sardinia suffers from a host of threats to its biocultural diversity. This is evident in both socio-cultural and environmental ambits. On the one hand, Sardinia is currently hosting a population of 1,587,413 people (less than 3% of Italy) with a very low population density of 65.98 inhabitants per square kilometer over a surface of 24,099 square kilometer (Sardegna Statistiche 2024). The socio-cultural stats depict a significant aging population in Sardinia, well known as one of the

regions in the world where people live longer than average (Poulain et al. 2013). Despite this, the decrease of population—especially inland—has resulted in the abandonment of traditional lands and practices, which in turn has had a strong impact on land use in the island.

On the other hand, the same environmental stats show a recent significant human impact on natural resources. Pressures for development, shoreline restructuring, mass tourism, marine water pollution, and algae blooms from this pollution are only some of the threats to the island ecosystems. Traditional fishing industry in Sardinia is increasingly replaced by over-fishing and fish farming, and many issues exist related to illegal fishing of marine life (Meloni 2015; Meloni et al. 2015; Meloni and Esposito 2018). From climate change and sea level rise, to loss of fishing grounds and coral reefs, to marine pollution and rampant development, the biocultural diversity of the island and its coastal areas is increasingly at risk.

Sardinia is not unique in experiencing these pressures, as many islands in the Mediterranean suffer from similar issues (Vogiatzakis et al. 2008). Islands have rare and fragile habitats that require added measures of protection (Makhzoumi and Pungetti 2008). It is true that each island has its own unique ecosystems and a different set of cultural features, and that they are not equally comparable in many aspects. However, many of the threats and pressures that the Mediterranean islands experience are similar in nature (Pungetti 2022). While migration is a massive issue in some islands (e.g., Lampedusa; Agius 2021), it also affects many other islands and seascapes to various degrees (Trovato 2022). The mass incoming of non-native settlers can lead to not only multiethnic variety, ways of life, and cultural enrichment, but also to modification of the environment, agriculture, logging, and sometimes, like mass tourism, to overuse of resources or introduction of non-native domestic animals, plants, and diseases.

From the above, it emerges that Sardinia, as a hotspot of biological and cultural diversity in the Mediterranean, can serve as an excellent model for a more comprehensive “Island Biocultural Diversity Initiative” of all Mediterranean islands.

Various disparate efforts currently are in motion to protect and conserve parts or all aspects of biocultural diversity in several regions and islands of the Mediterranean, with no unifying direction or coordination, which could avoid conflict or redundant parallel work. An attempt has been made at research level with the ESLAND Network, a European group of Institutions which cooperated in the ESLAND Project of the European Commission’s Culture Programme. Here, the vision has been to consider the European island landscapes as part of Europe’s cultural heritage, including the unique identity and values they have for European people. Starting in 2011, it has led to a stimulating ongoing discussion also in the Mediterranean and to several publications (see Pungetti 2017, 2022).

Although this and other island networks have been developed in the past in the Mediterranean, programs to promote biocultural diversity in this region have never been proposed. Italy, moreover, governs two of the largest islands in the Basin (Sicily and Sardinia), medium islands such as Elba, and numerous small islands. Hence, an initiative is needed to bring together these efforts under a single, unifying umbrella based in Italy, with a view on all European islands. For this reason, the Initiative on Island Biocultural Diversity in the Mediterranean has been launched at CBLS, University of Sassari in Sardinia, to support the preservation of Biocultural Diversity and TEK in the Mediterranean islands. The creation of a network of actors is envisaged to carry out this goal and join a collective effort towards a first action plan for this initiative. Although CBLS acts as the initial headquarter for the process, a first network is led by the institutions of this article and made up by other experts and organizations, seeking also actors and stakeholders engaged internationally and locally in the conservation of biological and cultural diversity in Mediterranean Islands. The final goal is to conserve and sustainably develop their landscape and seascape, and preserve their biocultural heritage and TEK.

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Data availability Readers are welcome to contact the authors for any questions about the data used in this research.

Declarations

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