ISLAND STUDIES JOURNAL

Connell, J. (2026). Medicinal Plant Knowledge and Practice in Island Ecologies: Back From the Brink? *Island Studies Journal*, *Early access*.
https://doi.org/10.24043/001c.162181

RESEARCH ARTICLES

Medicinal Plant Knowledge and Practice in Island Ecologies: Back From the Brink?

John Connell[1] [a]

[1] University of Sydney

Keywords: Identity, biodiversity, biomedicine, identity, islands, knowledge, traditional medicine

https://doi.org/10.24043/001c.162181

Island Studies Journal

Vol. Early access, 2026

Traditional medicine was once ubiquitous on islands and a valued component of local environmental knowledge. Its practice has declined and been partly superseded by biomedicine in every island context. A comprehensive initial comparative review of contemporary studies from more than forty mainly tropical and sub-tropical islands indicates that the number of medicinal plants in use, and the range of uses, has fallen fastest in European and Caribbean islands and more slowly in Pacific islands, where biomedicine is more recent and less accessible, and generational knowledge transmission is more likely. However, the practice and reception of traditional medicine is increasingly confined to older people and centred on minor ailments. The uneven loss of medicinal plants in island contexts is a significant component in the decline of biodiversity, through entanglements and material encounters with habitat loss, climate change, invasive species, modern education, migration and employment, monetisation, and attitudes to medical practice. Recent times have seen greater retention, medical pluralism, and a partial revival in islands and diasporas as local Indigenous values stress more holistic perspectives on identity and wellbeing.

Introduction

Indigenous medical practices existed on all islands before colonial intervention, involving the use of local plants (alongside massage, bone setting, and spiritual practices), but have become partly replaced by Western biomedicine. The term traditional medicine (TM) here refers to the knowledge of physical and cultural practices aimed at diagnosing and treating illnesses and maintaining physical, emotional, and social well-being. Such practices, involving the use of local plant, animal, and mineral-based medicines, spiritual therapies, and manual techniques, were and are based on observations, through understanding the natural and social environment and assembling a body of knowledge, practice, and beliefs, passed on through generations that became embodied in culture. However, the value of biomedicine, evident through vaccines and penicillin, seemed to suggest the lack of need for such local practices, often further discouraged by missions,

a john.connell@sydney.edu.au; corresponding author

colonial and national administrations (Connell, 2026). The use and knowledge of TM became a widespread element of a broader decline of traditional and local Indigenous environmental knowledge (TEK), evident in different continental regions (e.g., Bahadur et al., 2020; Maroyi, 2013; Mattalia et al., 2021; Uniyal et al., 2006). This paper extends this by examining island contexts in diverse maritime regions to meet the need to understand the retention and practice of TM in changing island environments, where biodiversity might be conserved and medicinal plants continue to provide valuable contributions to medicine (Davis & Choisy, 2024; Howes et al., 2020; Vandebroek, 2013).

The paper focuses on the plausibly distinctive status of small islands, albeit where environmental change has often been rapid (Zittis et al., 2025), but where TM practices may have been retained as an ecosystem service in some degree of isolation. While islands might therefore be seen in familiar old tropes as some form of laboratory, remote, isolated, and socially conservative, as the incursions of biomedicine suggest, they are not necessarily marginal, peripheral, or outer. Separation and connection are thus false dichotomies, so that 'islandness' embodies an inherent dynamic tension between isolation and connection (Foley et al., 2023; Pugh, 2016) where smallness itself is relational (Gugganig & Klimburg-Witjes, 2021; Kelman, 2023), relations are complex in a 'contact zone', and islands may or may not be worlds of difference or imagined communities (B. Anderson, 1983) behind marine boundaries or borders. The relative separation that enabled an island-as-laboratory model, valid in biogeography (Greenhough, 2006; Vitousek, 1995; Whittaker et al., 2017) and linguistics (Bromham et al., 2024), cannot readily be transferred to contemporary times and health provision. Certainly, "all dichotomizing concepts should probably be held in suspicion" alongside residual "imperial binaries" (W. Anderson, 2024; Clifford, 1988, p. 273). Nonetheless, there remains a residual and mundane sense that islands are different, making them reasonable yet pragmatically limited sites for an initial comparative examination of the contemporary roles and vicissitudes of TM.

This comparative and interdisciplinary overview examines the use, and disuse, of 'traditional' medicinal plants in multiple, mainly tropical, island contexts to examine the rationale for retention, loss, and revival in contexts where declining use of TM threatens the role of people and places as biocultural refugia (places that shelter species and people involved in TEK). In so doing, it enables island studies to "reach out to other fields and regions that have received limited attention" (Grydehøj, 2017, p. 3), yet are of considerable scientific and environmental importance. Here, both ethnobotany and social science knowledge play crucial and interlinked parts in the discovery and rediscovery of medicines derived from plants, which contribute to the retention of cultural heritage. Islands offer a high degree of endemism and distinctive biodiversity, suggesting considerable ecosystem differences, yet are manageable for developing a preliminary overview. The paper covers more than forty small island contexts where the use of TM

has been documented, to examine how and why transitions have occurred, whether consistencies exist across islands, and if there is a future for traditional medicine. It focuses on the use of plants, usually an integral part of TM (and thus proxies for it), and on those practitioners of TM who use herbal remedies. This does not imply that TM was a distinctive or static phenomenon, but rather a body of knowledge and practice that varied between and within places, incorporated different kinds of healers (and patients), and was always changing and evolving. Comparative study of TM on such a broad scale has not hitherto been undertaken.

For many islands in colonial eras, TM became accompanied by and often subordinate to biomedicine, partly because newly introduced biomedicine had some obvious success and partly because of emerging independent pragmatic factors, including land clearance and a 'modernity' that contributed to a disdain for, and shifts away from, subsistence agriculture and gathering. Loss of interest in local knowledge in diverse material spheres was driven by various facets of globalisation, market integration, acculturation, and modernity. On islands, although TEK is invaluable for socio-ecological resilience and the conservation of biodiversity, in the context of TM, knowledge is not passed on, becoming lost, forgotten, ignored, and underutilised (e.g., Łuczaj, 2023; Soelberg & Jäger, 2016). Weaker connections between people and nature exacerbated and trivialised this loss. Efforts have been made to place TEK in island school syllabuses, but western education systems have prevailed where parents want their children to 'achieve' and be independent of agriculture (e.g., McCarter et al., 2014; McCarter & Gavin, 2011). TEK was particularly threatened in relation to ecology, reducing biodiversity and distancing nature, contributing to weakened local knowledge bases, and reduced resilience to losses. Declining biocultural heritage, reported from multiple continental contexts, where local wild and cultivated species were sources of food and medicine, emphasises the parallel fragile and declining status of TEK. However, both TEK and TM were reinvigorated during the COVID-19 pandemic (e.g., Marazita, 2021; Pieroni et al., 2020), suggesting the practical value of retention.

Use of medicinal plants is disproportionately threatened by global and regional changes (Aswani et al., 2018). Losses of medicinal and ethnobotanical knowledge are perceived to be more substantial than in other facets of biodiversity, while the ability to conserve medicinal plants is hampered by limited understanding of the mechanisms that influence plant use, loss, and retention (Gaoue et al., 2017). This paper, therefore, seeks to examine, across various small island contexts, how and why the use of TM, notably medicinal plants, has declined. It examines the extent to which this is a function of external pressures, from states and religions, new leadership structures, diverse elements of convenient 'modernity', alongside the ease and utility of biomedicine, amidst physical landscape changes. It provides a wide-ranging example of biodiversity change on islands and contributes to demarcating the 'shifting baseline syndrome' recognised in ecological

research, where lesser knowledge exists in younger generations alongside a declining abundance and use of local natural resources. Since no single baseline exists, beyond the start of the particular set of observations, earlier declines are masked (Hanazaki et al., 2013). Changes are also difficult to generalise because each island possesses its own physical, social, ecological, and economic characteristics.

The literature on medicinal plant use in island contexts was scoured for studies of islands and TM. Based on previous work in the Pacific, a systematic, comprehensive literature review targeted peer-reviewed papers that examined the use of TM in small island communities in this century. Islands with more than half a million people were excluded. Studies that generalised across islands with several communities, where TM was marginal to the central aims, and papers that focused solely on the pharmacological value of plant species, were all excluded. The paper is necessarily based primarily on secondary data, hence concern is warranted over the unstated methodology of some studies. Almost all studies are from a single time period, and some can do little more than take on trust local assertions that 'considerable' losses of plants and plant species have 'often' occurred. Few studies are quantitative (and almost all of these focused on pharmacological properties). Pharmacological studies focused on the diversity of plant species and their uses; social studies (mainly in anthropology) focused on cultural practices and change. Several studies were involved in a pharmacological 'rescue ethnography', where, as in Guimaras (Philippines), the "rapid disappearance of traditional culture and natural resources [meant] there is an urgent need to systematically document the medicinal plants used" (Ong & Kim, 2014, p. 229). Hence, traditional healers were often key informants (e.g., Chander et al., 2015), suggesting some bias. Multiple absent baselines align with widespread accounts and summaries and point to reduced biodiversity, yet inherent limitations to explanations for change further emphasise the difficulties in viewing islands as laboratories even without the multiple entanglements of colonialism (Gugganig & Klimburg-Witjes, 2021; Kroupa et al., 2018). Only five studies are diachronic, providing two datasets for the same location at different times, from specific islands in the Caribbean (Soelberg & Jäger, 2016), the Baltic Sea (Soukand et al., 2024), the Mediterranean (Quave & Saitta, 2016), and the Indian Ocean (Al-Fatimi, 2023; Thibault et al., 2025). While such studies are valuable, their datasets cover different time periods, use different orientations and methodologies, in different cultural and geographical contexts. Consequently, the present analysis remains primarily qualitative and indicative.

Biodiversity and TEK

General biodiversity trends in islands provide a context for the decline and loss of TM species. While the relative isolation of islands has led to high levels of endemism and biodiversity, islands have experienced considerable vulnerability to natural and anthropogenic impacts. Small island and population sizes increase the degree of vulnerability to a range of

disturbances, at various scales, with consequent losses of plant species (Keppel et al., 2014). In most documented island contexts, both biodiversity and the reduced use of local plant species in health care are declining, with fewer plants available to be used as medicines, circumstances particularly true of atolls (Fernández-Palacios et al., 2021; Russell & Kueffer, 2019). Exceptionally, in Pantelleria (Italy), where edible fungi have become important since the 1970s (Quave & Saitta, 2016), in Vanuatu, where a plant introduced during the Second World War by US forces as camouflage was subsequently widely adapted throughout the country as a medicinal plant (Bradacs et al., 2011), and in Butaritari (Kiribati) where people acquired medicinal skills from Japanese during the war (Sewell, 1983), some plants and uses have increased, testifying to continued indigenous creativity and agency, yet losses dominate overall.

Multiple natural and anthropogenic threats to island biodiversity exist. Firstly, they follow habitat loss, and its degradation and fragmentation through such activities as logging, commercial agriculture, urbanisation, tourism, and mining (e.g., Steibl et al., 2021). In many islands, a 'coastal squeeze' has resulted in population and infrastructure (notably roads, ports, and airports) increasingly concentrated on coasts (with loss of coastal habitats and 'natural' environments at some distance inland), and occasional pollution from agricultural, industrial, and urban runoff, and from chemical fertilisers (Robinson et al., 2023). Market participation and commercial agricultural development are linked to a decline in subsistence diversity, greater dependence on processed imported food, loss of food security, and an increase in non-communicable diseases (e.g., Connell, 2015; McNamara et al., 2015). Thus, on Lesvos (Greece), commercial agricultural expansion exemplified change and loss with intensification and environmental degradation the outcome of both economic (low incomes from farming) and social (inability to collectively manage common resources) factors, while tourism later exacerbated the loss of TEK (Kizos et al., 2013). Overexploitation and displacement in various guises have collectively been the greatest global threat to island diversity, especially where medicinal plants are collected rather than planted.

Secondly, invasive species, both flora and fauna, have replaced indigenous endemic species and disrupted local ecosystems (Connell, 2013), circumstances particularly true of small islands, such as Pitcairn, where invasion was the main source of loss of endemic species (Göthesson, 1997). Invasive species directly and indirectly degrade ecosystem services, affect food crops, damage infrastructure, and harm public health (Brewington et al., 2023). Biological invasions remain an increasing and poorly understood process, posing a considerable threat to sustainability by displacing endemic species (Seebens et al., 2025). Small island size and isolation, a lack of management and communications infrastructure, and limited financial, material, and human resources impede dealing with invasive species.

Thirdly, climate change may be directly destructive of some terrestrial plant species (perhaps through flooding or cyclone damage) and indirectly, where vulnerability has been enhanced by invasive species (Carlos et al., 2018; Kumar et al., 2020). However, climate may more directly affect fauna rather than flora, and marine and coral reef rather than terrestrial species.

Fourthly, formal 'western' education systems have replaced local in situ processes of learning from earlier generations, linked to youthful disdain and absence of TEK from formal curricula (e.g., Johannes, 1981; LiPuma, 2000). Planting food crops and the recognition of valuable plants were constrained by 'the time demands of the capitalist wage economy and formal schooling' (Ferguson et al., 2022). 'Modern' education systems weakened TEK, by reducing opportunities for children to have daily interactions with plants and knowledgeable elders. Language loss, linked to education, is also associated with loss of biodiversity and, more critically, with the potential extinction of medicinal knowledge (Cámara-Leret & Bascompte, 2021). Generational change, and the shifting baseline syndrome, thus follow, with older people being more knowledgeable.

Fifthly, new forms of employment, sometimes indoors and divorced from rural contexts, and new forms of expenditure (including that on medicines), use of technology, and measures of prestige and achievement are distinct from rural concerns and indicative of different lifestyle preferences. Knowledge accumulates with age, unless migration intervenes, and is not passed on to those who have migrated, especially where leaders themselves migrate (Abe & Ohtani, 2013; Okui et al., 2021). Migration of leaders, and others with specialized skills and knowledge, contributes to some fracturing of local culture and social organisation, while urban residence (that migration usually entails) provides superior access to biomedicine (and often the ability to pay for it).

Such changes may be subsumed under familiar but generalised themes such as globalisation, urbanisation, socio-economic change, modernity, challenges to cultural identity, agricultural stagnation (especially subsistence), and environmental degradation. Collectively, the adoption of new lifestyles disconnected people from human-nature interactions: loosely 'the extinction of experience' through the loss of both ecological knowledge of, and emotional connection to, nature (Bashan et al., 2021) and ecosystem services. Consequently, conservation is more difficult, while its role and value become less evident.

These trends accompany loss of knowledge and diversity in other spheres of local identity, including the parallel use of plants in 'ethnoveterinary' practice (Soukand et al., 2024), and in other contexts, such as fishing in Fiji (Kitolelei et al., 2021), fish poisoning (Lako et al., 2023), and fish identification and coral reef ethnobiology in Solomon Islands (Aswani & Albert, 2015), and more generally the subsistence cultivation of local edible species, evident in the decline and disappearance of sago and taro production from many Pacific islands (Connell, 1978; Gaillard & Manner, 2010). In

a cultural context, loss of local languages (Kulick, 2019), music (Harrison, 2020), and canoe building and sailing skills (Genz, 2011) are all symptoms of social change, paralleling declines in material culture. Places where local agriculturalists, as in Vanuatu, affirmed TEK through their management of diverse varieties of taro, while also participating in a market economy (Caillon & Desgeorges, 2007), have become increasingly rare. The contexts for retaining TM have shrunk.

Traditional Medicine

The particular context of TM can now be examined through various case studies. All the general reasons for loss of biodiversity and locally based material practices (above) have differentially influenced the decline and loss of TM, alongside 'competition' from introduced biomedicine, and the expansion and extension (usually) of 'modern' health care (alongside ability to pay, and convenience of access).

The five diachronic studies suggest some related trends and similarities. On St Croix (United States Virgin Islands), the number of species used for TM fell from 64 before 1900 to less than 50 by 2014 (Soelberg & Jäger, 2016). However, reported losses have been more rapid in the European islands: Kihnu (Estonia) where the number of used species fell from 73 to 18 between1937 to 2021 (a decline more rapid than recorded for any other context of wild plant use) and on Pantelleria (Italy) over a similar period, where the number of useful medicinal plants had declined from107 to 45 (and were now used only for minor ailments such as dermatology and gastrointestinal problems). (Quave & Saitta, 2016; Soukand et al., 2024). Soqotra (Socotra) experienced the loss of a 'major part' of traditional knowledge of medicinal plants between 1990 and 2003 (Al-Fatimi, 2023). In Mayotte, the number of plant species was effectively stable between 2012 and 2018 but had substantially increased by 2019, the outcome of a more thorough methodology. An increase in Jeju (Korea) with the number of medicinal plants almost doubling between 1968 and 2004, similarly reflected different methodologies (Song et al., 2013; Thibault et al., 2025). Indeed, in every case, the quantitative data were a function of methodology, which was only consistent in Soqotra. New medicinal plants and uses were also reported on Soqotra on the second occasion. On St Croix, some losses were attributed to a reduction in biodiversity, but the principal reasons for decline were reduced need following advances in biomedicine (as cures for, and a means of eradicating, some ailments) and improved public health (including sanitation). On Kihnu, these two factors were also attributed primacy in explanations for decline. No additional explanations were offered for St Croix or Pantelleria (Quave & Saitta, 2016; Soelberg & Jäger, 2016; Soukand et al., 2024). While the rationale for change was broadly similar, none provided detail or offered any comparative perspective.

In pre-colonial islands, TM played a dual role in resolving and ameliorating diseases and illnesses, so enhancing culture and identity and the value of adhering to customary laws and values, and, usually, social hierarchy, where

healers were also local leaders. As islands became incorporated into wider political, economic, and social systems, TM came under pressure (along with other local practices). Both missions and administrations generally dismissed TM as backward, superstitious (akin to witchcraft and sorcery), and thus potentially dangerous, or occasionally more formally as lacking analytical scientific rigour and associated with low social status and poverty that colonial and religious intervention might eradicate (Connell, 2026). Biomedicine arrived amidst public health policies, often alongside religion, hence the two were often linked, but without the more holistic approach of TM that involved local culture. Over time, biomedicine has usually become more accessible in terms of distance, time, and cost, and proved effective (in many cases), while people lost concern over the impersonal, formal, and narrow approaches of biomedicine and of practitioners from different cultures and language groups (Quinlan, 2004). Cultural and physical distances declined, but sometimes alongside the inability to pay. Reception and the trajectory of change varied according to location, colonial structure, religion, and ethnicity, and the advent of colonial contact, being a function of different concepts of health, disease, and healing. Change was thus more recent in Melanesian than on Mediterranean islands.

In colonial times, simple rejection of TM by proponents of biomedicine was widespread; subsequently, such attitudes lingered on, based on assumptions that biomedicine was entirely superior, with direct criticism of continued use of TM where 'better' solutions existed, as on the Philippine islands (e.g., Villar et al., 2023). Where presenting at a 'modern' facility was delayed for any reason, whether belief systems or finance, modern practitioners from outside local communities were apt to be critical. Thus on Rote (Indonesia), health workers from elsewhere regarded local cultural understandings of health and religious beliefs as mere superstition, with both being barriers to good health, so voiced frustration where they felt there were missed opportunities and modern treatment was only a last resort. In effect, they felt that the process of change and even hybridisation was too slow. Rote people recognised what amounted to disputes over meaning that reprised struggles around traditional structures of power and influence, which had potential for positive outcomes but also created threats to social cohesion and new forms of exclusion (Wright & Lewis, 2012). Where established health practices worked, at least in part, and were embedded in local culture, and new 'advice' came from those with different cultures, often irregularly and infrequently, where islands were 'remote', with 'modern' practices complicated and contrary to local systems, they were inevitably seen in a cautious light (e.g., Howard, 1979). Yet, like many other introductions, the balance of hybridity gradually shifted towards biomedicine, however much TM was valued in primary health care.

Crucially, biomedicine expanded the range of treatment options rather than rendering TM obsolete, as layers of doubt related to causes and cures, especially when all cures failed or, alternatively, when ailments could easily

be resolved in both systems. In many islands that evolved into a pluralistic system, that both attributed certain causes to certain ailments, where the 'obvious' choice of cure was chosen, or where cures were uncertain or failed, resulting in a complexity of imbrication with people switching between systems offering flexible hierarchies of choice (Hamnett & Connell, 1981; Hardin et al., 2025; Macfarlane & Alpers, 2009; Poltorak, 2010; Schwartz, 1969; Sewell, 1983; Soler, 2024; Taylor, 2023; Thibault et al., 2025), further complicated by religious and spiritual beliefs and precepts. Biomedicine arrived on even isolated islands at least a century ago, so that most islanders have strategies for using it, and for what TM to retain, especially in relation to familiar ailments. Particularly unusual, severe, or incurable ailments might result in a convoluted 'diagnostic odyssey' over time and place and, in extreme cases, from village to capital city, and through biomedicine, prayer, and TM (Taylor, 2023). Occasionally external interventions, such as the arrival of a new hospital, doctrinaire and rigid Pentecostal religions (e.g., Chambers, 1983; Eves & Kelly-Hanku, 2020) or COVID-19 (Marazita, 2021) produced significant or sharp changes, not always in favour of biomedicine, but, otherwise, more gradual change simply brought some reduction in the use of TM and therefore of local medicinal plants.

The Loss of Traditional Medicinal Plants

Despite biodiversity supporting the culture, livelihoods, and economies of island communities, and providing ecosystem services, multiple challenges to conservation exist (e.g., Bambridge et al., 2021; Jupiter et al., 2014), which challenge resilience and adaptability to the social and ecological effects of intensified climate change (McMillen et al., 2014; Rarai et al., 2022). Within this broader context, an overall trajectory of species loss pervades all islands, but the long duration of use of some medicinal plants, documented for 200 years in the Caribbean (Soelberg & Jäger, 2016; Vujicic & Cohall, 2021), suggests the considerable utility of those that have remained in use. Many have had their pharmacological properties positively assessed.

More qualitative and single-time-point studies indicate that losses similar to those in St Croix, Kihnu, and Pantelleria, were replicated across a suite of studies elsewhere, but in no case were estimates made of the speed and periodicity of decline and loss, or of the types of TM plants that have proved more or less resilient. Since island ecologies vary, TM plant lists (which suggest the greater availability and use of more plants in the continental high islands of the western Pacific and Philippines) do not provide guidelines for decline. In the Ryukyu islands (Japan) (Moriguchi, 2023), Les Saintes (Guadeloupe) (Boulogne et al., 2011), and smaller Balearic Islands a few kilometres apart (Carrió & Vallès, 2012), variable retention and use occurred between similar neighbouring islands for no specified reason. In the last case the difference was accounted for by "microecological and microcultural characteristics" where "insularity surely played an important role" eventually refined as greater urbanisation, and vegetation clearance, in one island, despite its population of just 1800 (Carrió & Vallès, 2012, p. 1037).

Predictably, the number of plants incorporated in TM, firstly, were reported to have declined (alongside indications that the remaining useful plants were used less frequently), secondly, were accessible, and, thirdly, were successfully used for the treatment of minor and common illnesses with established success (Bradacs et al., 2011). Thus, in Les Saintes (Guadeloupe), almost all plants came from household gardens and were used in teas for rheumatism and headaches (Boulogne et al., 2011). In nearby Martinique, they were used for "the main everyday diseases" (Joseph et al., 2024, p. 65). Frequently, teas and occasional poultices accounted for treatments of mostly mild ailments such as skin, respiratory, throat, and gastrointestinal diseases (Chander et al., 2015; González et al., 2025; Ong & Kim, 2014; Samoisy & Mahomoodally, 2016; Thibault et al., 2025). References to any contemporary use of TM for bone fractures are rare (Chander et al., 2015). As in the Balearic Islands, "the general and current use of herbal medicine seems to be aimed at correcting imbalances caused by modern diets and lifestyles" (Carrió & Vallès, 2012, p. 1036). Such 'imbalances' included non-communicable diseases, so that in several places, including Samoa, Mayotte, and Guadeloupe, several plant-based remedies were used for treating diabetes (Courric et al., 2023; Hardin et al., 2025; Thibault et al., 2025). In Fiji, TM was used for treating Alzheimer's disease (Singh & Railoa, 2023). Where ailments are either slight, commonplace, or modern, treatments are not necessarily linked to specific cultural practices.

Where ailments treated by TM are relatively common and usually as easily resolved by relatively cheap, generally accessible, 'over-the-counter' medicine, use and choice were often based on accessibility. Thus a "large proportion" of the Mayotte population treated minor ailments with TM since it could take "several hours to see a doctor in a dispensary," but also because low-income individuals were less likely to be able to pay higher formal medical fees (Thibault et al., 2025, p. 2). In Martinique, a decline in wooded areas meant less space and place for herbs that became less accessible, while biomedicine became more accessible (Joseph et al., 2024). In some islands, TM plants were retained primarily in the event of emergencies, as on Mindoro (Philippines) (Villanueva & Buot, 2020). More serious complaints brought about switching between TM and biomedicine, or using both simultaneously.

Although Taylor (2023) has decried 'spatiotemporal stereotypes' in accounting for the use of TM, where rural areas are supposedly synonymous with TM and urban areas with biomedicine, losses have been most evident in European islands and least evident in the more remote areas of Pacific islands, where colonialism was more recent, and access to biomedicine sometimes poor. That was so in Viti Levu (Fiji) (Orcherton et al., 2021). On Manus (Papua New Guinea) men in villages most distant from the island town were the most knowledgeable about medicinal plants (Case et al., 2005). In the Bahamas, TM knowledge was more likely to be retained by older women on 'out islands' (Eldridge, 1975). However studies have often deliberately favoured remote places, alongside assumptions that remote places retained

TEK through some degree of disadvantage (Hanazaki, 2024), with older people, in more remote places, being regarded as poor, less mobile, with access to 'traditional' agricultural systems, and unable to pay for (or adapt to) modern medicine, rather than making a deliberate choice of TM.

In almost every island context, retention of TM knowledge by older people and its failure to be transmitted were apparent, as evident on continents and mainlands (Aswani et al., 2018). Ubiquitously, older populations were more likely to have retained TEK and TM, as in the Bahamas and the Balearic Islands where informants were 'retirees' or 'of advanced age' (Carrió & Vallès, 2012; González et al., 2025). In Mayotte, those who were recognised throughout the island as experts averaged 59 years, experts within particular communes were a little younger (52 years), while those who dispensed TM to their families and neighbours averaged 45 years and included more women than men (Thibault et al., 2025). In Malekula (Vanuatu) and in Fijian islands, older men had a richer body of knowledge and were the main TM practitioners (McCarter & Gavin, 2015; Miyamoto et al., 2021). Similar circumstances were evident across islands in every ocean and sea: including Kihnu and Pantelleria, Lemnos islands (Greece), (Papageorgiou et al., 2020), Rotuma (Fiji) (McClatchey, 1996), Gau (Fiji) (Miyamoto et al., 2021) and the Marquesas (Girardi et al., 2015) and virtually throughout the Pacific, Indian Ocean and Caribbean islands. In Aitutaki (Cook Islands), women were the main healers, gaining knowledge in dreams, and being reluctant to pass this knowledge on (Robinson et al., 2023). However, on Soqotra, knowledge of medicinal plants was widespread in 1990 but by 2003 had been lost by younger men and women, influenced by 'civilisation', urbanisation, migration, tourism, and war, all of which reduced isolation (Al-Fatimi, 2023). A quarter of a century ago: "Rotuman knowledge of traditional herbal medicine is concentrated in a very few elderly healers who still quietly practice their trade of compassion, before dying and taking their knowledge with them" (McClatchey, 1996, p. 148). On Kinmen (Taiwan), "traditional knowledge about medicinal plants in Kinmen is rapidly disappearing and may gradually be lost in the future" (Huang et al., 2022, p. 2). In Vanuatu, it was suggested that "within a generation, custom medicine will likely be lost" (Lai & Grace, 2014, p. 140). In Guam, where knowledge was inherited by family members, few of whom were interested or available, healers had to decide whether to pass on knowledge to non-family members or let the knowledge die with them (Lizama, 2014). In the Aegadian Islands (Sicily), many plant-based traditions have disappeared from daily practice, especially those related to fishing and health practices (as tourism became the main source of livelihoods), but 'remain in the memories of the eldest subset of the population' (La Rosa et al., 2021). Lack of transmission was most evident where economies had substantially changed, often through the growth of tourism (despite retention in the Balearic Islands), and/or where knowledge was not universally shared and sometimes secretly retained by senior people.

While men tended to be the principal healers and practitioners (and often leaders in other spheres), that was not always so. Women were least likely to migrate and were often the agriculturalists, hence retaining more intimate connections with place. On Guimaras (Philippines) and the Loyalty Islands (New Caledonia), women were most knowledgeable, as men had wider economic and employment interests (Ong & Kim, 2014; Soler, 2024). Similar knowledge retention by women was more generally true in Tonga (Bloomfield, 2002; Poltorak, 2010) and in the Tiwi Islands (Australia), where indigenous Aboriginal women routinely collected medicinal plants while foraging for food species (Thompson et al., 2021). In Ibiza, too, women were most involved in the home gardens that were the source of TM plants (González et al., 2025). In Rodrigues, women were more involved with TM since they were most likely to look after sick household members (Samoisy & Mahomoodally, 2016). On Marmara (Turkiye), where TM had almost disappeared, plants were collected as much for food as for any secondary medicinal value (Bulut, 2016). In most island contexts, the knowledge base was idiosyncratic, with differences between household practitioners and 'professional' healers, and islanders and healers in the same places having varied knowledge and practices (Firestone et al., 2025; Orcherton et al., 2021; Vandebroek, 2010). As the range of TM practices declined and local leaders were less likely to be involved (or regard it as their primary role) fewer people retained relevant knowledge.

That TM may currently be declining more rapidly was widely reported. As recently as the 1990s on Rotuma, an island by then having experienced 'modern' education and Christian religion for more than a century, sixty-eight specialist healers were identified out of a total population of about 2500 (but very few healers had apprentices, and the more knowledgeable were all aged over 60) hence "the current healers will probably be the final generation of traditional healers in Rotuman culture" (McClatchey, 1996, p. 155). On Dek Island (Ethiopia), knowledge of medicinal plant use is 'nearly disappearing among the young generation' as information is not passed on (Teklehaymanot, 2009). On Guimaras (Philippines), all those with knowledge of TM were older than fifty, as younger people were uninterested in medicinal plant gathering and trading; in two nearby villages, retention of TM was greatest in the village where formal employment was least, and in-marriage was greatest. In both villages, less formally educated people knew more about TM, being less exposed to knowledge about biomedicine and science, and with less income from their lack of wage employment (Ong & Kim, 2014). On St Croix, by the 1950s, the "weedwoman [has] almost completed her mission" (quoted in Soelberg & Jäger, 2016, p. 77). On Pantelleria it was reported that all the traditional spiritual healers had died, some as recently as five years prior to the 2014 study (Quave & Saitta, 2016) while the 2014 study of St Croix recorded the death of the single most knowledgeable individual (Soelberg & Jäger, 2016). On Manus, specialist TM practitioners had all disappeared by the end of the twentieth century, but a more limited TM was

retained within households (Case et al., 2005). Likewise, as the practitioners of TM were aging, so too were its users (e.g., Huang et al., 2022; Lai & Grace, 2014; Lizama, 2014; Vujicic & Cohall, 2021). Such residual users were likely to be less formally educated, mobile, or affluent. By contrast, twenty-five years later, for six varied islands in French Polynesia, with long-established education and religion, many people were healers – at least 130 - and some 45 percent of them were aged less than 45 (Chassagne et al., 2022). Otherwise, such age-related disparities and declines in knowledge were commonly interpreted as 'ethnobotanical erosion' (Hanazaki et al., 2013; McCarter & Gavin, 2015; Voeks, 2018).

The overall structure of loss has followed a lack of interest in collecting (or planting) and preparing local plants, associated with other 'standard' characteristics (including the ease and utility of biomedicine, Christianity, education, migration, formal employment, and land use change) that suggest an assumption of irrelevance in the face of biomedicine. The erosion of TM and of TEK is both complex and socially and geographically uneven, generally being retained in more remote islands, or remote places on islands, where 'modernity' was less profound and more inaccessible (but some research anticipated that). Retention has been best documented in Melanesian islands, notably in Vanuatu, where local structures of leadership have been less likely to change (and where such leaders have also been healers). TM is unlikely to completely disappear since various components are effective (mainly for minor ailments) while biomedicine can never be entirely successful. Local remedies are valuable (and successful) where ailments are familiar and not severe, or where connectivity is problematic, as during COVID-19 in several islands where a 'return' to TM occurred. Nonetheless, on Guam, where a globalised context and colonial pressures (including militarisation and substantial land alienation) have been unusually intense, TM is still used by the Indigenous CHamoru population (Lizama, 2014), while, in similar circumstances in French Polynesia and New Caledonia, revivals in use have accompanied a greater emphasis on Indigenous identity in the face of ongoing colonialism (Misaki, 2021; Soler, 2024).

New plants have quite recently been added to the existing pharmacopeia in several islands: "several native or introduced Tahitian medicinal plants have been recently introduced in the Marquesas Islands (French Polynesia), for their healing reputation... demonstrat[ing] the innovative ability of Marquesan healers and their capacity to integrate new plant species in the Marquesan pharmacopoeia" (Girardi et al., 2015, p. 212). Similar processes were ongoing in Woleai atoll (Federated States of Micronesia) in the mid-1990s. At least in the Marquesas, that was part of a wider revival of several elements of TEK related to local cultural and food sovereignty with parallels in other islands in French Polynesia (Donaldson, 2018; Misaki, 2021). In the Tiwi Islands, greater use was linked to a resurgence in 'women's business' (Thompson et al., 2019). Such changes were associated with both a more holistic concept of health (and wellbeing) and a focus on ethnic identity

in the face of racism, both factors that have accounted for some preference for retention of TM in diaspora populations (Connell, 2026). TM was not a curious relic from the past but a valuable means of asserting identity and resistance (Hanazaki, 2024) within a holistic approach.

That has coincided with greater WHO interest in integration, where 'practices in [traditional and complementary medicine] empower individuals to actively participate in their health and thereby prevent disease through daily activities and practices that are amenable to self-care, cost-effective, minimally invasive and have limited side-effects' (Burki, 2023). Despite that formal interest, there is little indication that it has yet affected islands where, as on mainlands (Carè et al., 2021), accountability and regulation of traditional practitioners and supporting hybridity are difficult.

Conclusion

This overview provides insights into why and how indigenous ecological knowledge relating to medicinal plants has changed, and points to how islands are linked into dilemmas of care where "for Indigenous people in post-colonial contexts, treatment-seeking can be politically entangled, culturally embedded, and resource contingent" (Phillips, 2020, p. 738). Despite the problem of second-hand data using varied methodologies, from a small dataset, the paper further emphasises the widespread 'shifting baseline syndrome'. What was true in a general continental context (Hanazaki et al., 2013) was replicated in island contexts. Where a baseline could be established, notably in St Croix, a clear and considerable downward trend was evident, especially on Mediterranean islands, long influenced by external factors. By contrast, in Pacific islands, significant generational shifts are more recent, personally remembered, but impossible to quantify. The rapid decline of TM in several islands and predictions of its imminent demise elsewhere might have seemed inevitable in a tide of modernity and biomedicine. Yet what is remarkable is the extent and persistence of TM, even in truncated form. Culture and knowledge are dynamic, and as scholars who returned to islands concluded, assumptions and predictions of rapid change and the end of tradition were often confounded (Connell & Lee, 2018). TM has continued to compete with biomedicine, even in such modern sites as hospitals (Connell, 2026; Lai & Grace, 2014) and amidst the diaspora in metropolitan destinations. It faded faster than other facets of biodiversity because of direct competition from accessible biomedicine.

The reduced use of TM has been attributed to multiple factors, suggesting the loss of some practices and plant uses in many settings, but alongside some recent revivals. There is certainly no linear process, only diverse, complex, interconnected, and evolving post-colonial entanglements. However, certain factors influence loss including, firstly, migration, urbanisation and new non-agricultural employment; secondly, declining interest in agriculture; thirdly, population pressures and habitat loss; fourthly, ability to pay, (sometimes) lower cost of pharmaceuticals, convenient access to pharmacies and time pressures; fifthly, better access to hospitals, greater trust in biomedicine

(and its growing effectiveness), with local people trained as biomedicine practitioners, and 'modern' education; all of which can be summarized as an ill-defined or measurable 'acculturation' and 'modernity'. Nonetheless, TM faded, just as other facets of TEK faded, in the face of diverse incursions of capitalism, loss of traditional leadership structures, 'modern' education, and reduced oral and practical transmission of knowledge, alongside the concomitant loss of biodiversity.

However, in more recent times, while TM had hitherto seemed part of an inexorable downward trajectory, towards the possible extinction of local plants and medicinal practices, that decline has slowed, stabilised, and, in some places, reversed direction. While 'rescue' may inflate the number and significance of medicinal plants (Łuczaj, 2023), as pharmacologists saw potential and were reluctant to concede decline, documentation alone did not ensure the use of TM or the transmission of skills and knowledge. "Research into the ethnopharmacology of medicinal plants must center Indigenous perspectives" (Davis & Choisy, 2024, p. R164) and practices, so conserving nature-based health solutions for potential future use, as has been significant in the past (Davis & Choisy, 2024; Howes et al., 2020) to meet emerging global health challenges through more holistic health care, as part of TEK, but without romanticising TEK and TM (Leonti, 2024). Arguably, "drugs derived from plants are fundamental in our armoury against global health challenges" (Howes et al., 2020, p. 464) and provide further evidence of the diversity of values of nature for sustainability (Pascual et al., 2023). In Pacific islands especially, the transmission of ecological knowledge and practices continues to provide genetic and cultural reservoirs for a wide array of species and a shelter for biodiversity and ecosystems. However, this paper shows how, in diverse island contexts, retaining TM and thus TEK and biodiversity are difficult, despite its retention in St Croix over 200 years, but especially in an era of climate change, where environments and ecologies are changing.

Nevertheless, TM has survived, and sometimes expanded in many contexts, firstly, where 'modern' medicine is inaccessible and unaffordable (having a partial revival during the COVID-19 pandemic); secondly, where administered for commonplace and (usually) easily curable diseases, where it has validated efficacy; thirdly, where incurable diseases resistant to biomedicine are significant (and where pluralism exists); fourthly, where local aetiology suggests spiritual and cultural causes (most evident in the Pacific); fifthly, greater respect from governments and revitalisation of local identities, especially in colonial contexts (e.g., Arjona-Garcia et al., 2021; Gaoue et al., 2017; Gold & Clapp, 2011; Janes, 1999; Zank & Hanazaki, 2017). While WHO supports integration and cultural diversity, the relationship has only occasionally been revived, albeit tentatively, and remarkably in the diaspora: a challenge to spatiotemporal stereotypes. TM complements rather than competes with biomedicine, enhancing empowerment, equity, and identity and, incidentally, self-reliance. Attributing weight to these varied

circumstances is unusually difficult across diverse island contexts, where words such as urbanisation have diverse meanings, and where socio-economic analysis is rare.

Lesser knowledge exists in younger generations, while the declining abundance of local natural resources (and thus plant species) is not a mere anecdote or assumption, but a global universal, coincident with the declining perceived value of TM resources in island contexts. Substantial intergenerational loss has occurred, but data constraints make it impossible to pinpoint timelines or (in)direct impacts and causes. Relationships exist with familiar facets of globalisation and modernity, but are also a function of the extent of an initial, but uncertain, biodiversity. As in St Croix, it is simply impossible to know what happened to many plants that have disappeared or are no longer used, and why this was so (Soelberg & Jäger, 2016), or even whether the plants and/or their utility disappeared.

Such fluctuating relationships emphasised how island ecologies and economies are understood more in their connectedness than their isolation (Burnett, 2023). Their shores and coastlines are places of interaction rather than borders, marking differences in ecology and biodiversity but at least as much, or more so, in culture and society (Dening, 1980) ensuring that islands are places of ambivalence and duality, where resilience responds to and sometimes resiles from relational entanglements (Chandler & Pugh, 2021). Islanders, deeply influenced through the relational entanglements of colonialism and globalisation, in themselves very far from homogeneous (Connell, 2026; Thomas, 1991), may have experienced similar processes but demonstrate diverse modes of acculturation and resilience, some pragmatic, some spiritual, as biomedicine sometimes complements, sometimes displaces. Quite different contexts (including the ecologies of diseases), but also similarities, changes, and outcomes enable only general conclusions to be reached without more holistic research. Lack of interest in TM contributed to the loss of biodiversity, weakening the potential for conservation. Yet TM is retained, seemingly paradoxically, even in relatively modern contexts (such as Ibiza) and the diaspora, being located at the intersection of cultural, social and healing practices, enabling continuity of culture and identity, and the retention of social obligations (and even occasionally cost advantages) reflecting the **holistic** nature of health and wellbeing (e.g., Chassagne et al., 2022; Misaki, 2021; Soler, 2024). The diversity of island contexts and changes offers alternatives to notions of modernity's seeming linear progress, challenges the 'island-as-laboratory', and rejects simple dualisms and dichotomies. TM will remain in some form as long as there are health problems, patients and healers, convenience, some preference for local values and identity, and a broader perspective on the holistic nature of health.

Submitted: November 01, 2024 CST. Accepted: March 23, 2026 CST. Published: June 02, 2026 CST.

References

Abe, R., & Ohtani, K. (2013). An ethnobotanical study of medicinal plants and traditional therapies on Batan Island, the Philippines. *Journal of Ethnopharmacology*, *145*(2), 554–565. https://doi.org/10.1016/j.jep.2012.11.029

Al-Fatimi, M. (2023). Ethnopharmacological survey of endemic plants used in ethnomedicinal knowledge of Soqotra Island. *Journal of Ethnopharmacology*, *304*, 16033. https://doi.org/10.1016/j.jep.2022.116033

Anderson, B. (1983). *Imagined Communities*. Verso.

Anderson, W. (2024). Islands and Beaches in Science and Technology Studies. *Science, Technology & Human Values*, *49*(6), 1215–1228. https://doi.org/10.1177/01622439241236544

Arjona-Garcia, C., Blancas, J., ... Beltrán-Rodriguez, L. (2021). How does urbanization affect perception and traditional knowledge of medicinal plants? *Journal of Ethnobiology & Ethnomedicine*, *17*, 48. https://doi.org/10.1186/s13002-021-00473-w

Aswani, S., & Albert, S. (2015). Change in Roviana Lagoon Coral Reef Ethnobiology. In N. Narchi & L. Price (Eds.), *Ethnobiology of Corals and Coral Reefs* (pp. 157–175). Springer.

Aswani, S., Lemahieu, A., & Sauer, W. (2018). Global trends of local ecological knowledge and future implications. *PLoS ONE*, *13*(4), e0195440. https://doi.org/10.1371/journal.pone.0195440

Bahadur, S., Khan, M., ... Sha, M. (2020). Traditional usage of medicinal plants among the communities of Peshawar Valley, Pakistan. *Acta Ecologica Sinica*, *40*, 1–29. https://doi.org/10.1016/j.chnaes.2018.12.006

Bambridge, T., D'Arcy, P., & Mawyer, A. (2021). Oceanian Sovereignty: Rethinking conservation in a sea of islands. *Pacific Conservation Biology*, *27*, 345–353. https://doi.org/10.1071/PC20026

Bashan, D., Colléony, A., & Schwartz, A. (2021). Urban versus rural? The effects of residential status on species identification skills and connection to nature. *People and Nature*, *3*, 347–358. https://doi.org/10.1002/pan3.10176

Bloomfield, S. (2002). *Illness and Cure in Tonga. Traditional and Modern Medical Practice*. Vava'u Press.

Boulogne, I., Germosén-Robineau, L., Ozier-Lafontaine, H., Fleury, M., & Loranger-Merciris, G. (2011). TRAMIL ethnopharmacological survey in Les Saintes (Guadeloupe, French West Indies): a comparative study. *Journal of Ethnopharmacology*, *133*(3), 1039–1050.

Bradacs, G., Heilmann, J., & Weckerle, C. (2011). Medicinal plant use in Vanuatu: a comparative ethnobotanical study of three islands. *Journal of Ethnopharmacology*, *137*(1), 434–448. https://doi.org/10.1016/j.jep.2011.05.050

Brewington, L., Eichelberger, B., ... Read, N. (2023). Pacific Island Perspectives on Invasive Species and Climate Change. In S. Walsh, C. Mena, J. Stewart, & J. Pérez (Eds.), *Island Ecosystems. Social and Ecological Interactions in the Galapagos Islands* (pp. 59–78). Springer Nature.

Bromham, L., Yaxley, K., & Cardillo, M. (2024). Islands are engines of language diversity. *Nature Ecology & Evolution*, *8*(10), 1991–2002.

Bulut, G. (2016). Medicinal and wild food plants of Marmara Island (Balikesir – Turkey). *Acta Societatis Botanicorum Poloniae*, *85*, 1–16. https://doi.org/10.5586/asbp.3501

Burki, T. (2023). WHO's new vision for traditional medicine. *The Lancet*, *402*, 763–764. https://doi.org/10.1016/S0140-6736(23)01841-X

Burnett, K. A. (2023). Refuge or retreat: resilience and the mediatization of Scotland's island space. *Scottish Geographical Journal*, *140*(1–2), 91–112. https://doi.org/10.1080/14702541.2023.2242821

Caillon, S., & Desgeorges, P. (2007). Biodiversity: negotiating the border between nature and culture. *Biodiversity and Conservation*, *16*, 2919–2931. https://doi.org/10.1007/s10531-007-9149-7

Cámara-Leret, R., & Bascompte, J. (2021). Language extinction triggers the loss of unique medicinal knowledge. *Proceedings of the National Academy of Science*, *118*(24), e2103683118. https://doi.org/10.1073/pnas.2103683118

Carè, J., Steel, A., & Wardle, J. (2021). Stakeholder attitudes to the regulation of traditional and complementary medicine professions: a systematic review. *Human Resources for Health*, *19*, 42. https://doi.org/10.1186/s12960-021-00579-y

Carlos, G., Velmurugan, A., ... Jerard, B. (2018). Biodiversity of Polynesian islands: Distribution and threat from climate change. In C. Sivaperuman, A. Velmurugan, A. Singh, & I. Jaisankar (Eds.), *Biodiversity and Climate Change Adaptation in Tropical Islands* (pp. 105–125). Academic Press.

Carrió, J., & Vallès, E. (2012). Ethnobotany of medicinal plants used in Eastern Mallorca (Balearic Islands, Mediterranean Sea). *Journal of Ethnopharmacology*, *141*, 1021–1040. https://doi.org/10.1016/j.jep.2012.03.049

Case, R., Pauli, G., & Soejarto, D. (2005). Factors in maintaining indigenous knowledge among ethnic communities of Manus Island. *Economic Botany*, *59*, 356–365. https://doi.org/10.1663/0013-0001(2005)059

Chambers, A. (1983). *Nanumea*. ANU Development Studies Centre.

Chander, M., Kartick, C., & Vijayachari, P. (2015). Ethnomedicinal knowledge among Karens of Andaman & Nicobar Islands, India. *Journal of Ethnopharmacology*, *162*, 127–133. https://doi.org/10.1016/j.jep.2014.12.033

Chandler, D., & Pugh, J. (2021). Anthropocene islands: There are only islands after the end of the world. *Dialogues in Human Geography*, *11*(3), 395–415. https://doi.org/10.1177/2043820621997018

Chassagne, F., Butaud, J.-F., ... Torrente, F. (2022). Polynesian medicine used to treat diarrhea and ciguatera: an ethnobotanical survey in six islands from French Polynesia. *Journal of Ethnopharmacology*, *292*, 115186. https://doi.org/10.1016/j.jep.2022.115186

Clifford, J. (1988). *The Predicament of Culture*. Harvard University Press. https://doi.org/10.4159/9780674503724

Connell, J. (1978). The death of taro: local response to a change of subsistence crops in the Northern Solomon Islands. *Mankind*, *11*, 445–452. https://doi.org/10.1111/j.1835-9310.1978.tb01181.x

Connell, J. (2013). Ants, Snakes and Taro Blight: Contemporary Invasions of the Pacific Islands. In C. Larrue (Ed.), *Biodiversity and Societies in the Pacific Islands* (pp. 51–70). Presses Universitaires de Provence.

Connell, J. (2015). Food security in the island Pacific: Is Micronesia as far away as ever? *Regional Environmental Change*, *15*(7), 1299–1311. https://doi.org/10.1007/s10113-014-0696-7

Connell, J. (2026). Traditional Medical Practice in the Island Pacific: Beyond the Colonial Legacy. *Health and History*, *28*.

Connell, J., & Lee, H. (2018). Returning to the Pacific. In J. Connell & H. Lee (Eds.), *Change and Continuity in the Pacific. Revisiting the Region* (pp. 1–16). Routledge.

Courric, E., Brinvilier, D., ... Couderc, P. (2023). Medicinal plants and plant-based remedies in Grande-Terre: an ethnopharmacological approach. *Plants*, *12*(3), 654. https://doi.org/10.3390/plants12030654

Davis, C., & Choisy, P. (2024). Medicinal plants meet modern biodiversity science. *Current Biology*, *34*, R158–R173. https://doi.org/10.1016/j.cub.2023.12.038

Dening, G. (1980). *Islands and Beaches: Discourse on a Silent Land, Marquesas, 1774-1880*. Melbourne University Press.

Donaldson, E. (2018). Place, destabilized: ambivalent heritage, community and colonialism in the Marquesas Islands. *Oceania*, *88*(1), 1–21. https://doi.org/10.1002/ocea.5182

Eldridge, J. (1975). Bush medicine in the Exumas and Long Island, Bahamas: a field study. *Economic Botany*, *29*, 307–332. https://doi.org/10.1007/BF02862180

Eves, R., & Kelly-Hanku, A. (2020). Medical pluralism, Pentecostal healing and contests over healing power in Papua New Guinea. *Social Science and Medicine*, *266*, 113381. https://doi.org/10.1016/j.socscimed.2020.113381

Ferguson, C., Green, K., & Swanson, S. (2022). Indigenous food sovereignty is constrained by "time imperialism." *Geoforum*, *133*, 20–31. https://doi.org/10.1016/j.geoforum.2022.05.003

Fernández-Palacios, J., Kreft, H., ... Irl, S. (2021). Scientists' warning – The outstanding biodiversity of islands is in peril. *Global Ecology & Conservation*, *31*, e01847. https://doi.org/10.1016/j.gecco.2021.e01847

Firestone, R., Hitti, P., ... Latu, L. (2025). Insights on wellbeing and society from a Taulasea/traditional healer perspective. *Kotuitui: New Zealand Journal of Social Science Online*, *20*(4), 1192–1207. https://doi.org/10.1080/1177083X.2025.2514832

Foley, A., Brinklow, L., ... Corbett, J. (2023). Understanding "islandness." *Annals of the American Association of Geographers*, *113*(8), 1800–1817. https://doi.org/10.1080/24694452.2023.2193249

Gaillard, C., & Manner, H. (2010). Yam cultivation on the east coast of New Caledonia: adaptation of agriculture to social and economic changes. *Australian Geographer*, *41*(4), 485–506. https://doi.org/10.1080/00049182.2010.519697

Gaoue, G., Coe, M., Bond, M., ... Hart, G. (2017). Theories and major hypotheses in ethnobotany. *Economic Botany*, *71*, 269–287. https://doi.org/10.1007/s12231-017-9389-8

Genz, J. (2011). Navigating the revival of voyaging in the Marshall Islands: predicaments of preservation and possibilities of collaboration. *The Contemporary Pacific*, *23*(1), 1–34.

Girardi, C., Butaud, J.-F., ... Ollier, C. (2015). Herbal Medicine in the Marquesas Islands. *Journal of Ethnopharmacology*, *16*, 200–213. https://doi.org/10.1016/j.jep.2014.09.045

Gold, C., & Clapp, R. (2011). Negotiating health and identity: lay healing, medicinal plants, and indigenous healthscapes in highland Peru. *Latin American Research Review*, *46*(3), 93–111.

González, R., Garnatje, T., & Vallès, J. (2025). From secular isolation to current globalisation: preserving the ethnobotanical knowledge in Eivissa/Ibiza (Balearic Islands, Spain). *Plants*, *14*(6), 890.

Göthesson, L. (1997). *Plants of the Pitcairn Islands including Local Names and Uses*. UNSW Centre for South Pacific Studies.

Greenhough, B. (2006). Tales of an island-laboratory: defining the field in geography and science studies. *Transactions of the Institute of British Geographers*, *31*(2), 224–237.

Grydehøj, A. (2017). A future of island studies. *Island Studies Journal*, *12*(1), 3–16. https://doi.org/10.24043/isj.1

Gugganig, M., & Klimburg-Witjes, N. (2021). Island Imaginaries: Introduction to a Special Section. *Science as Culture*, *30*(3), 321–341. https://doi.org/10.1080/09505431.2021.1939294

Hamnett, M., & Connell, J. (1981). Diagnosis and Cure: The Resort to Traditional and Modern Medical Practitioners in the North Solomons, Papua New Guinea. *Social Science and Medicine*, *15*(B), 489–498. https://doi.org/10.1016/0160-7987(81)90023-5

Hanazaki, N. (2024). Local and traditional knowledge systems, resistance, and socioenvironmental justice. *Journal of Ethnobiology & Ethnomedicine*, *20*(5). https://doi.org/10.1186/s13002-023-00641-0

Hanazaki, N., Herbst, D., ... Marques, M. (2013). Evidence of the shifting baseline syndrome in ethnobotanical research. *Journal of Ethnobiology & Ethnomedicine*, *9*, 75.

Hardin, J., Fulu-Aiolupotea, S., ... Lees, T. (2025). Diabetes care in Samoa: Prevention as not-enough-care and the knowledge gaps it produces. *Global Public Health*, *20*(1), 2482768.

Harrison, K. (2020). Indigenous music sustainability during climate change. *Current Opinion in Environmental Sustainability*, *43*, 28–34. https://doi.org/10.1016/j.cosust.2020.01.003

Howard, A. (1979). The Power to Heal in Colonial Rotuma. *Journal of the Polynesian Society*, *88*(3), 243–275.

Howes, M.-J., Quave, C., ... Collemare, J. (2020). Molecules from nature: Reconciling biodiversity conservation and global healthcare imperatives for sustainable use of medicinal plants and fungi. *Plants, People, Planet*, *2*(5), 463–481.

Huang, S.-S., Huang, C.-H., Ko, C.-Y., ... Chen, T.-Y. (2022). An Ethnobotanical Study of Medicinal Plants in Kinmen. *Frontiers in Pharmacology*, *12*, 681190.

Janes, C. (1999). The health transition, global modernity and the crisis of traditional medicine: the Tibetan case. *Social Science & Medicine*, *48*, 1803–1820. https://doi.org/10.1016/S0277-9536(99)00082-9

Johannes, R. (1981). *Words of the Lagoon. Fishing and Marine Lore in the Palau District of Micronesia*. University of California Press. https://doi.org/10.1525/9780520321397

Joseph, P., Jean-Philippe, C., & Abati, Y. (2024). Some considerations on the medicinal botany of the lesser Antilles: The case of Martinique. *Journal of Medicinal Plants Studies*, *12*(4), 63–70. https://doi.org/10.22271/plants.2024.v12.i4a.1692

Jupiter, S., Mangubhai, S., & Kingsford, R. (2014). Conservation of biodiversity in the Pacific Islands of Oceania: Challenges and opportunities. *Pacific Conservation Biology*, *20*(2), 206–220.

Kelman, I. (2023). The island as a political interstice. *Political Geography*, *107*, 102977. https://doi.org/10.1016/j.polgeo.2023.102977

Keppel, G., Morrison, C., Meyer, J., & Boehmer, H. (2014). Isolated and vulnerable: The history and future of Pacific Island terrestrial biodiversity. *Pacific Conservation Biology*, *20*(2), 136–145. https://doi.org/10.1071/PC140136

Kitolelei, S., Thaman, R., ... Veiteyaki, J. (2021). Na Vuku Makawa ni Qoli: Indigenous Fishing Knowledge (IFK) in Fiji and the Pacific. *Frontiers in Marine Science*, *8*, 684303. https://doi.org/10.3389/fmars.2021.684303

Kizos, T., Plieninger, T., & Schaich, H. (2013). "Instead of 40 Sheep there are 400": Traditional Grazing Practices and Landscape Change in Western Lesvos, Greece. *Landscape Research*, *38*, 476–498.

Kroupa, S., Mawson, S., & Brixius, D. (2018). Science and islands in Indo-Pacific worlds. *British Journal of the History of Science*, *51*(4), 541–558. https://doi.org/10.1017/S0007087418000730

Kulick, D. (2019). *Death in the rainforest. How a language and a way of life came to an end in Papua New Guinea*. Algonquin.

Kumar, L., Jayasinghe, S., & Gopalakrishnan, T. (2020). Climate Change and Impacts on Biodiversity on Small Islands. In L. Kumar, S. Jayasinghe, T. Gopalakrishnan, & P. Nunn (Eds.), *Climate Change and Impacts in the Pacific* (pp. 449–474). Springer. https://doi.org/10.1007/978-3-030-32878-8_12

La Rosa, A., Cornara, L., Saitta, A., ... Salam, A. (2021). Ethnobotany of the Aegadian Islands: safeguarding biocultural refugia in the Mediterranean. *Journal of Ethnobiology & Ethnomedicine*, *17*, 47. https://doi.org/10.1186/s13002-021-00470-z

Lai, Y., & Grace, R. (2014). Alternative medicine use at Vila Central Hospital: a survey of "custom medicine" use in patients and staff a decade later. *Tropical Doctor*, *44*(3), 140–142. https://doi.org/10.1177/0049475514526593

Lako, J., Naisilisili, S., Vuki, V., Kuridrani, N., & Agyei, D. (2023). Local and Traditional Ecological Knowledge of Fish Poisoning in Fiji. *Toxins*, *15*(3), 223.

Leonti, M. (2024). Are we romanticizing traditional knowledge? A plea for more experimental studies in ethnobiology. *Journal of Ethnobiology and Ethnomedicine*, *20*(1), 56.

LiPuma, E. (2000). *Encompassing Others. The Magic of Modernity in Melanesia*. University of Michigan Press. https://doi.org/10.3998/mpub.15532

Lizama, T. (2014). Yo'ămte: A Deeper Type of Healing. Exploring the State of Indigenous Chamorro Healing Practices. *Pacific Asia Inquiry*, *5*(1), 97–106.

Łuczaj, Ł. (2023). Descriptive ethnobotanical studies are needed for the rescue operation of documenting traditional knowledge. *Journal of Ethnobiology & Ethnomedicine*, *19*, 37. https://doi.org/10.1186/s13002-023-00604-5

Macfarlane, J., & Alpers, M. (2009). Treatment-seeking behaviour among the Nasioi people of Bougainville: choosing between traditional and western medicine. *Ethnicity and Health*, *14*(2), 147–168. https://doi.org/10.1080/13557850802546588

Marazita, J. (2021). Healthcare Denied? Covid-19 and Kiribati's Shrinking Transnational Space. In Y. Campbell & J. Connell (Eds.), *COVID in the Islands: A comparative perspective on the Caribbean and the Pacific* (pp. 193–206). Palgrave Macmillan.

Maroyi, A. (2013). Traditional use of medicinal plants in south-central Zimbabwe: review and perspectives. *Journal of Ethnobiology and Ethnomedicine*, *9*, 31. https://doi.org/10.1186/1746-4269-9-31

Mattalia, G., Soukand, R., Corvo, P., & Pieroni, A. (2021). "We became rich and we lost everything": Ethnobotany of Remote Mountain Villages of Abruzzo and Molise, Central Italy. *Human Ecology*, *49*, 217–224.

McCarter, J., & Gavin, M. (2011). Perceptions of the value of traditional ecological knowledge to formal school curricula: opportunities and challenges from Malekula Island, Vanuatu. *Journal of Ethnobiology & Ethnomedicine*, *7*, 38. https://doi.org/10.1186/1746-4269-7-38

McCarter, J., & Gavin, M. (2015). Assessing Variation and Diversity of Ethnomedical Knowledge: A Case Study from Malekula Island, Vanuatu. *Economic Botany*, *9*(3), 251–261. https://doi.org/10.1007/s12231-015-9319-6

McCarter, J., Gavin, M., Baereleo, S., & Love, M. (2014). The challenges of maintaining indigenous ecological knowledge. *Ecology and Society*, *19*(3), 39. https://doi.org/10.5751/ES-06741-190339

McClatchey, W. (1996). The ethnopharmacopoeia of Rotuma. *Journal of Ethnopharmacology*, *50*(3), 147–156. https://doi.org/10.1016/0378-8741(95)01343-1

McMillen, H., Ticktin, T., Friedlander, A., ... Jupiter, S. (2014). Small islands, valuable insights: systems of customary resource use and resilience to climate change in the Pacific. *Ecology & Society*, *19*(4), 17.

McNamara, K., Lisimoni-Togahai, B., & Smith, R. (2015). "Our kids don't want to eat taro anymore": Unravelling the challenges of contemporary sociocultural change in Niue. *Journal of New Zealand & Pacific Studies*, *3*(1), 167–182.

Misaki, M. (2021). Rā'au mā'ohi: the Efficacy and Resurgence of Traditional Herbal Medicine in French Polynesia. *Journal de La Société Des Océanistes*, *153*, 245–258. https://doi.org/10.4000/jso.13134

Miyamoto, K., Ehara, H., ... Thaman, R. (2021). Traditional knowledge of medicinal plants on Gau Island, Fiji: differences between sixteen villages with unique characteristics of cultural value. *Journal of Ethnobiology & Ethnomedicine*, *17*, 58. https://doi.org/10.1186/s13002-021-00481-w

Moriguchi, M. (2023). Biocultural Diversity of the Ryukyu Archipelago based on the Plant Diversity used as Fish Poison. *Journal of Marine & Island Cultures*, *12*(3), 49–61. https://doi.org/10.21463/jmic.2023.12.3.04

Okui, K., Sawada, Y., & Yoshida, T. (2021). "Wisdom of the Elders" or "Loss of Experience" as a Mechanism to Explain the Decline in Traditional Ecological Knowledge: A Case Study on Awaji Island, Japan. *Human Ecology*, *49*, 353–362. https://doi.org/10.1007/s10745-021-00237-w

Ong, H., & Kim, Y. (2014). Quantitative ethnobotanical study of the medicinal plants used by the Ati Negrito indigenous group in Guimaras island, Philippines. *Journal of Ethnopharmacology*, *15*, 228–242. https://doi.org/10.1016/j.jep.2014.09.015

Orcherton, D., Orcherton, M., & Kensen, M. (2021). Understanding Traditional Healing Practices and the Categories of Practices from Fijian *iTaukei*'s Perspectives. *Sustainability*, *13*, 9003. https://doi.org/10.3390/su13169003

Papageorgiou, D., Bebeli, P., Panitsa, M., & Schunko, C. (2020). Local knowledge about sustainable harvesting and availability of wild medicinal plant species in Lemnos Island, Greece. *Journal of Ethnobiology and Ethnomedicine*, *16*, 36. https://doi.org/10.1186/s13002-020-00390-4

Pascual, U., Balvanera, P., ... Anderson, C. (2023). Diverse values of nature for sustainability. *Nature*, *620*(7975), 813–823.

Phillips, T. (2020). The everyday politics of risk: Managing diabetes in Fiji. *Medical Anthropology*, *39*(8), 735–750. https://doi.org/10.1080/01459740.2020.1717489

Pieroni, A., Vandebroek, I., ... Prakofjewa, J. (2020). Taming the pandemic? The importance of homemade plant-based foods and beverages as community responses to COVID-19. *Journal of Ethnobiology and Ethnomedicine*, *16*, 75.

Poltorak, M. (2010). "Traditional" healers, speaking and motivation in Vava'u, Tonga: explaining syncretism and addressing health policy. *Oceania*, *80*(1), 1–23.

Pugh, J. (2016). The relational turn in island geographies: bringing together island, sea and ship relations and the case of the Landship. *Social & Cultural Geography*, *17*(8), 1040–1059.

Quave, C., & Saitta, A. (2016). Forty-five years later: The shifting demands of traditional ecological knowledge on Pantelleria Island, Italy. *Economic Botany*, *70*(4), 380–393. https://doi.org/10.1007/s12231-016-9363-x

Quinlan, M. (2004). *From the Bush: The Front Line of Health Care in a Caribbean Village*. Wadsworth.

Rarai, A., Parsons, M., Nursey-Bray, M., & Crease, R. (2022). Situating climate change adaptation within plural worlds: The role of Indigenous and local knowledge in Pentecost Island, Vanuatu. *Environment and Planning E: Nature and Space*, *5*(4), 2240–2282. https://doi.org/10.1177/25148486211047739

Robinson, D., Raven, M., & Puapii, R. (2023). *Aitutaki Traditional Medicines and Healers Network Protocol* [Mimeo].

Russell, J., & Kueffer, C. (2019). Island Biodiversity in the Anthropocene. *Annual Review of Environment and Resources*, *44*, 31–60. https://doi.org/10.1146/annurev-environ-101718-033245

Samoisy, A. K., & Mahomoodally, F. (2016). Ethnopharmacological appraisal of culturally important medicinal plants and polyherbal formulas used against communicable diseases in Rodrigues Island. *Journal of Ethnopharmacology*, *194*, 803–818.

Schwartz, L. (1969). The hierarchy of resort in curative practices: The Admiralty Islands, Melanesia. *Journal of Health and Social Behavior*, *10*(3), 201–209. https://doi.org/10.2307/2948390

Seebens, H., Mayerson, L., ... Richardson, D. (2025). Biological invasions: a Global assessment of geographic distributions, long-term trends, and data gaps. *Biological Reviews*. In press.

Sewell, B. (1983). *Butaritari*. ANU Development Studies Centre.

Singh, D., & Railoa, K. (2023). Common traditional medicinal seaweeds used by indigenous Fijians in Viti Levu, Fiji Islands. *Journal of New Zealand and Pacific Studies*, *11*(1), 45–55. https://doi.org/10.1386/nzps_00147_7

Soelberg, J. D., & Jäger, O. (2016). Historical versus contemporary medicinal plant uses in the US Virgin Islands. *Journal of Ethnopharmacology*, *192*, 74–89. https://doi.org/10.1016/j.jep.2016.07.005

Soler, N. (2024). Chemins kanak de la souveraineté sur la santé: les revendications sur la médecine traditionnelle dans la construction de Kanaky Nouvelle-Calédonie. *Journal de la Société des Océanistes*, *158–9*, 123–136. https://doi.org/10.4000/129ci

Song, M., Kim, H., ... Heldenbrand, B. (2013). Ethnopharmacological survey of medicinal plants in Jeju Island, Korea. *Journal of Ethnobiology and Ethnomedicine*, *9*, 48. https://doi.org/10.1186/1746-4269-9-48

Soukand, R., Kalle, R., ... Prakofjewa, J. (2024). The importance of the continuity of practice: Ethnobotany of Kihnu island (Estonia) from 1937 to 2021. *Plants, People, Planet*, *6*(1), 186–196. https://doi.org/10.1002/ppp3.10423

Steibl, S., Franke, J., & Laforsch, C. (2021). Tourism and urban development as drivers for invertebrate diversity loss on tropical islands. *Royal Society Open Science*, *8*(10), 210411.

Taylor, J. (2023). Rubbish sick and the dancing devil. Illness, alterity and narrative sensemaking in Vanuatu. *American Ethnologist*, *50*, 656–667.

Teklehaymanot, T. (2009). Ethnobotanical study of knowledge and medicinal plants use by the people in Dek Island in Ethiopia. *Journal of Ethnopharmacology*, *124*(1), 69–78. https://doi.org/10.1016/j.jep.2009.04.005

Thibault, T., Yannick, E., ... Abassi, D. (2025). Unveiling the potential and specificity of the Mahoran ethnopharmacopoeia: A field survey. *Journal of Ethnopharmacology*, *340*, 119255.

Thomas, N. (1991). *Entangled Objects. Exchange, Material Culture, and Colonialism in the Pacific*. Harvard University Press.

Thompson, A., Munkara, G., Kantilla, M., & Tipungwuti, J. (2021). Medicinal plant use in two Tiwi island communities: a qualitative research study. *Journal of Ethnobiology & Ethnomedicine*, *15*, 40. https://doi.org/10.1186/s13002-019-0315-2

Uniyal, S., Singh, K., Jamwal, P., & Lal, B. (2006). Traditional use of medicinal plants among the tribal communities of Chhota Bhangal, Western Himalaya. *Journal of Ethnobiology & Ethnomedicine*, *2*, 14. https://doi.org/10.1186/1746-4269-2-14

Vandebroek, I. (2010). The Dual Intracultural and Intercultural Relationship between Medicinal Plant Knowledge and Consensus. *Economic Botany*, *64*(3), 303–317. https://doi.org/10.1007/s12231-010-9135-y

Vandebroek, I. (2013). Intercultural health and ethnobotany: How to improve healthcare for underserved and minority communities? *Journal of Ethnopharmacology*, *148*(3), 746–754.

Villanueva, E., & Buot, I. (2020). Useful Plants of the Alangan Mangyan of Halcon Range, Mindoro Island, Philippines. *Journal of Marine and Island Cultures*, *9*(1), 76–102. https://doi.org/10.21463/jmic.2020.09.1.05

Villar, M., Lisay, F., & Lanciso, M. (2023). Health seeking behaviour of People Living in Selected Rural Communities Amidst COVID 19-Pandemic: The Case of Lagonoy, Camarines Sur, Philippines. *International Journal of Multidisciplinary and Current Educational Research*, *5*(5), 190–202.

Vitousek, P. (1995). The Hawaiian islands as a model system for ecosystem studies. *Pacific Science*, *49*(1), 2–16.

Voeks, R. (2018). *The Ethnobotany of Eden. Rethinking the Jungle Medicine Narrative*. University of Chicago Press. https://doi.org/10.7208/chicago/9780226547855.001.0001

Vujicic, T., & Cohall, D. (2021). Knowledge, Attitudes and Practices on the Use of Botanical Medicines in a Rural Caribbean Territory. *Frontiers in Pharmacology*, *12*, 71385. https://doi.org/10.3389/fphar.2021.713855

Whittaker, R., Fernández-Palacios, J., ... Matthews, T. (2017). Island biogeography: taking the long view of nature's laboratories. *Science*, *357*(6354), eaam8326.

Wright, C., & Lewis, B. (2012). On the Edge of Crisis: Contending Perspectives on Development, Tourism and Community Participation on Rote Island, Indonesia. *Advances in Southeast Asian Studies*, *5*(1), 102–127.

Zank, S., & Hanazaki, N. (2017). The coexistence of traditional medicine and biomedicine: A study with local health experts in two Brazilian regions. *PLoS ONE*, *12*(4), e0174731. https://doi.org/10.1371/journal.pone.0174731

Zittis, G., Zoumides, C., ... Zemah-Shamir, S. (2025). Insular ecosystem services in peril: a systematic review on the impacts of climate change and other drivers. *Climatic Change*, *178*, 127. https://doi.org/10.1007/s10584-025-03961-0