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Interpreting the Indigenous and imported heritage of medicinal and culinary plant use in St. Vincent through the Gardens of John Nero and Alexander Anderson

Abstract

This paper explores how two very different 'heritage' gardens on the Caribbean island of St. Vincent hold a mirror to the rich and complex socio-cultural and botanical history of the wider Caribbean region, reflecting the different approaches to the historic cultivation and exploitation of indigenous and imported plant resources for culinary and medicinal ends. We start with a consideration of a small-scale gardening project in the village of Greiggs undertaken by John Nero, a Garifuna ('Black Carib'). This venture acts as a focus of a local community heritage and educational initiative, and attempts to reflect an emic view on the authenticity of Garifuna culinary and medicinal plant use. The second case, the botanical garden in Kingstown (one of the oldest botanical gardens in the New World and associated with the Scottish botanist Dr Alexander Anderson d.1811) offers a distinct contrast, and is considered as a modernist, colonialist and etic project, reflecting the botanical heritage of the Caribbean in the context of a global imperialist crossroads, and as a tool for a formalised scientific research. The two gardens differ in terms of scale, history, and cultural background but both are intimately connected to the themes of migration, colonisation, resistance, and post-colonial socio-economic development seen through an ethnobotanical lens on this small and under-researched Caribbean island.

Keywords: St. Vincent; Plant use; Medicinal; Culinary; Heritage

<H1>Introduction

Writing in her 1999 collection of essays *My Garden*, the Caribbean writer Jamaica Kincaid (b. 1949) reflected on her visits as a child to the botanical garden in St John's, Antigua (Kincaid 1999: 106), which she recalled as being an enormous expanse, and 'edenic'. Her writing captures the tension at the core of this paper: the formal botanical garden as essentially a global enlightenment and modernist project of categorisation, colonialism, and control, whilst simultaneously an attempt at creating a 'paradise' on earth (Prest 1981). As well as botanical gardens, Kincaid also celebrates the informal, smaller scale, African-Caribbean gardens that have their roots in the shared plots and yard-scapes of the plantation experience, places where medicinal and culinary plants with applications drawn from indigenous, African, and European knowledge systems were cultivated. In this paper we will be considering both types of garden which while representing the competing worldviews of in effect the coloniser and the colonised, both also reflect the international and cross-cultural dimension of Caribbean plant use.

The present volume focuses on recent advances in the wider area of Caribbean ethnobotany. Here we attempt to see the history of plant exploitation on a single Caribbean island (St. Vincent, Windward islands) through the lens of heritage, so this entails considering issues of differing approaches to the interpretation of botanical history. Such questions include how this complex botanical history reflects more general historical trajectories, as well as current concerns around the important questions of de-colonisation and indigenous rights. Much of the focus of Caribbean ethnobotanical writing in recent years (see for example Carney 2003; Carney and Rosomoff 2009; Voeks and Rashford 2012 *inter alia*) reflects a broader and older anthropological debate

surrounding issues of 'creolisation' (itself a problematic term) versus the survival of African cultural memes, as represented respectively by the positions of the anthropologists Sidney Mintz and Melville Herskovits (Price 2001). These works are important because they emphasise the agency of enslaved peoples, and the use of botanical resources in culinary and medicinal contexts as a means to reinforcing and celebrating African identity, and to some degree resistance against the dominant system of enslavement and colonial capitalism (Schiebinger 2017).

Less attention has been paid to the history of the survival of 'indigenous' (i.e. pre-contact) insular Caribbean plant use (it is beyond the scope of this paper to consider the use of the different ethnic labels, see Keegan and Hofman 2017: 11-15), but reconstruction of these foodways can be accessed (if rarely) via archaeological analysis, study of early colonial archival material, and contemporary ethnographic research (cf. Hofman *et al.* 2018; Newsom 2008). Of the third 'strand' of Caribbean botanical history, the 'colonial' or 'global' outlook, perhaps understandably, little has been written (e.g. Faggi *et al.* 2012), but one of the most important recent works, Barry Higman's survey of Jamaican food (Higman 2008), is significant because it draws the three ethnobotanical 'strands' together to consider the importance of food in framing a post-colonial Jamaican social identity. This is a concept to which we shall later return with reference to the Garifuna people of St. Vincent.

Having broadly contextualised the scope of this paper, let us return to the specific aims, namely how this rich cross-cultural botanical heritage is interpretated and displayed in two contrasting settings on St. Vincent, and how these settings reflect wider historical and contemporary issues

in the Caribbean region around questions of indigenous knowledge, de-colonisation, identity and politics. Before engaging with the gardens themselves, we will next consider the concept of plant knowledge and gardens as heritage, before outlining a brief historical background, and then delineating the methodological approaches that underpinned data gathering and interpretation. We shall then go on to consider the gardens of John Nero and Dr Alexander Anderson in turn, both products of different historical circumstances, and analyse what light they can throw on important questions around Caribbean ethnobotany. Let us now turn first to the question of the relationship between ethnobotany and heritage with reference to the two gardens.

Theoretical, historical and methodological contexts of the study

When we talk of heritage, we are referencing a broad concept that encompasses physical places (tangible heritage) and tradition and ideas (intangible heritage). Within the framework of this paper, our focus is upon two gardens, museums of plant life essentially, each reflecting different historical and social contexts. These are tangible places, with tangible plants that can be studied, sensed and interpreted (for example using guide-books, digital media or basic signage). These tangible spaces reflect a deep well of intangible heritage: historical botanical knowledge systems. In the case of John Nero's garden, this information is derived and curated through the lens of generations of Garifuna plant use, drawing upon indigenous, African, and colonial memory-sets. In the case of Dr Alexander Anderson's garden, the intangible botanical heritage embodied here is distilled from global knowledge systems gathered firstly in the 18th century within the context of a modernist project, and geared towards making the machinery of the colonial edifice run more smoothly through finding alternative and sustainable methods for feeding people and combating tropical diseases. Botanical gardens exist in many different global settings and reflect

an enlightenment and modernist need to categorise, control and improve. They are also the most visible of botanical heritage settings (see Lee *et al.* 2018, for an alternative perspective Acton 2011).

The Windward island of St. Vincent was, unlike some of its Caribbean neighbours, not colonised by Europeans immediately. In the 18th century it had the status of being an independent 'Carib' territory, home to a small French settler population, with a modest increment of Africans, and the 'island/red/yellow' Caribs, and Garifuna (or 'Black Caribs'), a group of people whose roots were in the intermixing of runaway African enslaved peoples from neighbouring islands and the indigenous 'island/red/yellow' Caribs (for a more detailed discussion on ethnic identity see Gullick 1985). It was only after the conclusion of the Second Carib War in 1797 that the British were able to consolidate control, establish a small sugar industry and choose the new capital Kingstown as the site of an important botanical experiment. Many Garifuna were forcibly deported to Roatan island (Honduras) where many of their descendants live today (Finneran and Welch 2020). Having outlined the broader historical context, mention needs to be made of the underpinning methodology that informed the project design.

In studying John Nero's garden, we took an ethnographic and contemporary approach. Our research is based upon a series of informal and unstructured interviews conducted between 2018-20 among eight informants (including Nero himself) at the village of Grieggs (six informants were interviewed while preparing food for sale at the National Heroes Day celebrations on March 14th 2018, 2019 and 2020). Subjects ranged across the types of plants grown, their medicinal and culinary uses, the parts of plants used, folklore surrounding plant use, and places

of origin of the plants. In addition, we also referred to exhibition boards created by the Garifuna Heritage Foundation at an event held around the National Heroes Day commemorations in March 2020. The plant names, including the Latin names, are taken directly from the exhibition board, and in places vary from *The Kew Plant List* (http://www.plantsoftheworldonline.org; see appendix A for a cross referenced list). The exhibition developed by the Garifuna Heritage Foundation was part of an ongoing education effort in regard to indigenous plant use on the island, and thus speaks directly to Garifuna understandings of plants rather than correct botanical terminology (cf Higman 2008: 104 who refers to multiple identifications of 'callaloo' in Jamaica). This is a common theme when trying to identify plant sources: nomenclature varies across time and place.

In studying Dr Alexander Anderson's garden we took a historical and archival approach. The sources we used include the 1785 list of plants in the St. Vincent Botanical Garden categorised against the 1792 and 1806 lists of the same, together with the 1791 list of *West Indian Medicines and their Cures* (Anderson 1790). These plants are listed in this paper as transcribed and as such there are variations in spelling, and again the naming of the plants does not always conform to *The Plant List* (see Appendices B and C; this part of the paper draws on and develops work on the St. Vincent Botanical Garden by Richard Howard (Howard 1954), and the transcriptions of some of the Anderson archives by Howard and his wife Elizabeth, but much of the material is presented for the first time in print). We also visited the botanical garden on several occasions in 2019-20, undertaking guided and unguided tours, and noting how the botanical history of the garden was communicated. Having established the broad contexts for the study, we now turn to our first garden.

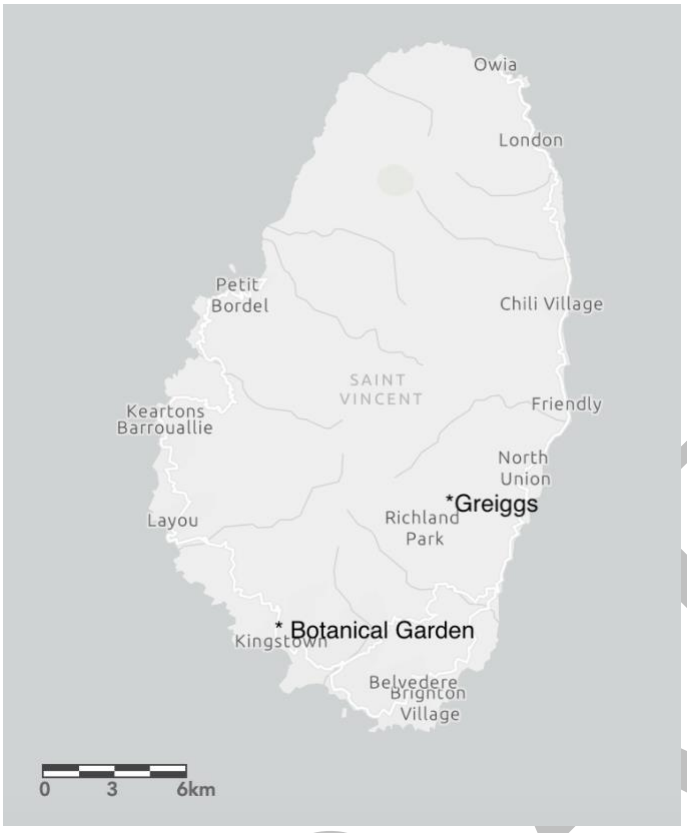

Figure 1: Map of St. Vincent showing key sites mentioned in the text (https://www.arcgis.com/home/webmap/viewer.html?webmap=89db2a206d224a0f881212119000e163)

<H3>John Nero's Garden and the heritage of indigenous Garifuna plant use

The authors have been working alongside the Garifuna Heritage Foundation since 2018 on a strategy for heritage tourism and educational outreach (Finneran and Welch 2020). The idea of the Garifuna existing in a more 'natural' and 'indigenous' world was continually stressed by all those we spoke to during the study (Garifuna and non-Garifuna alike), and central to this was the attachment to landscape and the ubiquitous small-scale domestic 'provision ground' (a wider

Caribbean cultural theme, see DeLoughrey 2011). Working directly with the Garifuna community in the village of Greiggs, in September 2018 we ran a community heritage workshop which resulted in a change of emphasis for their March 2019 National Heroes Day village festival, focussing on selling home-cooked Garifuna food and home-grown Garifuna produce as expressions of their heritage, and a celebration of Garifuna culinary and medicinal plant knowledge (as noted above the majority of our ethnographic interviews were conducted in these informal celebratory settings). It was the recognition of this intimacy and connection with plant sources that led us to investigate the question of Garifuna plant use in more detail.

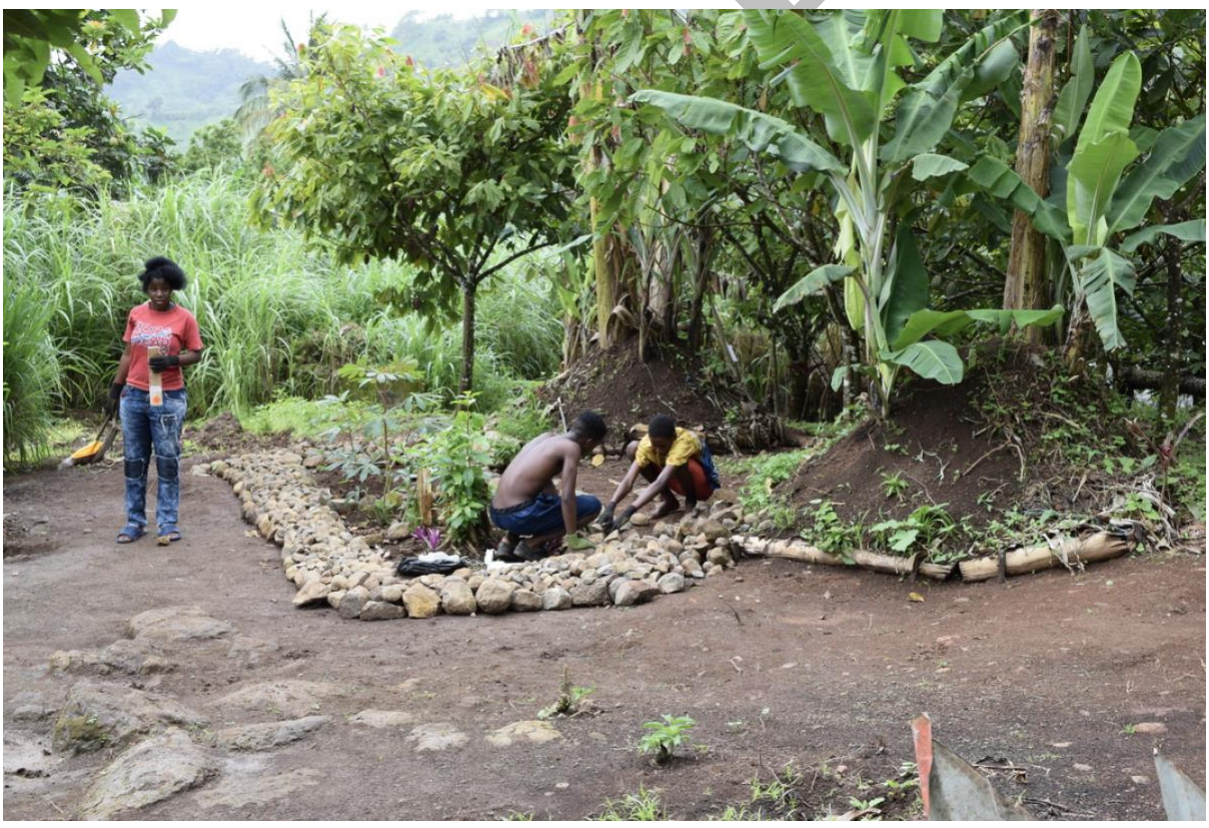

Figure 2: John Nero's Garden, Greiggs Village, July 2019 © Finneran 2019

On a visit to Grieggs in the Summer of 2019, at the suggestion of the Garifuna Heritage Foundation, we met with one of the leading lights of the community, John Nero, a descendant of the last Garifuna village chief. On hearing about our interest in Garifuna plant exploitation, he proudly showed us his community heritage initiative: an authentic Garifuna provision ground, providing a living museum of Garifuna plant resources used for medicinal and culinary purposes. His small ancestral plot on the northern margins of the village in the shadow of a mountain measured c. 35 metres by 100 metres and development work on it started in early 2019. By March 2020, Nero had started to cultivate a wide range of traditional Garifuna culinary and medicinal plants in neat raised-beds bordered by local rocks (see Figure 2). Sugarcane bounded the site and screened off the nascent eco-tourism focussed heritage centre. In addition to the heritage aspect, Nero saw the garden as a project to help engage economically deprived youth in the area, where they would learn traditional Garifuna plant cultivation techniques and the medicinal and culinary contexts of the plants, as well as general life skills by working as part of a team, and more specific ecological skills such as making a compost toilet.

There are no formal interpretative elements here for the visitor, information is given orally and in a storied manner; an approach which mirrors the vernacular intimate Garifuna attitude to plant use and landscape. A strength of John Nero's garden is its connection with place and the depth of knowledge Nero has about his land and what grows there. Using Nero's expertise, our ethnographic interviews, and analysis of the content of a traditional plant use exhibition at the Garifuna Heritage Foundation, National Heroes Day celebrations in March 2020, we were able to construct a schedule of contemporary Garifuna plant use (Appendix A), and compare and contrast with historical data from the St. Vincent Botanical garden. The historical data comprises

Dr Alexander Anderson's 1785 list of plants in the Botanical garden, categorised against his 1792 and 1806 lists of plants classified as: of medicinal and economic value, as esculents, of medicinal use, of economic use, as valuable woods, as fruits, or as ornamentals (Appendix B) and Anderson's 1791 list of West Indian medicines and their cures (Appendix C). In order to compare and contrast the contemporary Garifuna schedule of plant use with Dr Anderson's lists and categories of plants, we needed to classify the contemporary plants in his historic style. Thus, of the 66 plants named in our exploration of contemporary Garifuna ethnobotany, 20 were purely medical, 28 were solely for culinary use, 13 were both culinary and medical (including cocoa which although having economic purposes is grown on a very small-scale), 2 plants were for medicinal and economic use and 1 for culinary and economic use (economic including insect repellents and calabash vessels), and 2 related to narcotics; *Cannabis sativa* (Hemp) – 'Ganja' which is religious to the Rastafarian community who share the village with the Garifuna, and *Datura x candida* (Solanaceae) – 'Angel's Trumpet/Brugmansia' which contains hallucinogenic compounds. Although the vast majority of plants used by the Garifuna today are for culinary use, a significant number are grown as everyday medical cures, and here there is an interesting parallel with Anderson's 1791 list of plant cures which details a range of ailments common to the time; although notably some illnesses changed named (dropsy is better known today as a form of oedema), and others such as yaws (which was once prevalent especially amongst the island's enslaved population (Nicholls 1894: 42)), have been eradicated.

Health and health care on St. Vincent is not without its constraints, fiscal and social (MOHWE 2014) and there are high rates of poverty on the island, especially amongst the Garifuna. Further, many Garifuna villages such as Greiggs, are located in the more remote parts of the island where

access to hospitals and health centres can be tricky. As such it is notable that the range of ailments treated with plants are the more common ones; fever (6 plants), pain relief (5 plants), purgative, laxative and diuretic (5 plants), stomach pains (4 plants), worms (4 plants), anti-inflammatories (4 plants), skin problems (2 plants), gout (2 plants), malaria (2 plants), venereal disease (2 plants) and general aches (1 plant). At the Greiggs village festival in March 2020, we additionally found *Aloe vera* on sale for use with cuts and burns, and a home-made salve to assist with sores, bites and spots. With little recourse to pharmaceutical products, residents in Greiggs and other remote Garifuna villages heal themselves with traditional remedies; these are of course relatively cheap (if not free), and time-honoured, which for a people such as the Garifuna who have sorely felt the effects of colonialism, provides them with a sense of autonomy, and pride in their traditions.

The traditional knowledge that we gathered from Nero and other Garifuna (essentially intangible botanical heritage) builds upon that collected by Dr Anderson in the early days of the St. Vincent Botanical Garden. Anderson's 1791 list of plant cures was derived from vernacular, intimate and smaller-scale domestic connections with the landscape that drew directly upon indigenous, African-Carib, and enslaved African knowledge systems of plant use, and these sources remain evident today in that, for example, the use of the term Kojo root may relate to a Fante (Akan) personal name, and that Eddoes and Taro/Dasheen, whilst native to eastern Asia would have arrived on the island via west Africa through the Transatlantic slave trade. Yet the contemporary plant list also incorporates contemporary Western medical understandings. Signage on the Garifuna plant use exhibition included the information '*Cartharanthus roseus* (Madagascan periwinkle); extract used in drugs against leukaemia and Hodgkins disease' and '*Portalaca*

oleracea (common purslane); High oxalic acid levels harmful… High Omega 3 values'. In a sense then, contemporary Garifuna ethnobotany is the sort of 'creolised' economic botanical knowledge visible across the Caribbean, evidencing both traditional indigenous and African plant practices, as well as use and knowledge of plants brought in during the colonial era by settlers such as Dr Anderson, and post-colonial Western scientific medicinal plant knowledge. However, of relevance to this paper in particular was the absence of plant taxonomy from the March 2020 Garifuna culinary and medical plant use exhibition boards; only the scientific and local names were provided. The exhibition signage therefore highlighted an engagement by the Garifuna with Western scientific systems of knowledge (which are understood as an important and necessary element in the context of botany), but emphasised that local culturally-specific ways of knowing are preeminent.

The Garifuna elders and community leaders that we spoke with lamented that traditional plant knowledge has been marginalized in contemporary St. Vincent, and indeed even forgotten by all bar a few die-hard people determined to keep traditions alive. Indeed, the Garifuna Heritage Foundations' culinary and medical plant use exhibition was part of an on-going effort to reclaim indigenous medical and culinary plant practices, whilst John Nero's garden is a project to revive Garifuna approaches to land-use. Notably, in 2008, the Food and Agricultural Organisation of the United Nations reported that 'Over the past ten years no action has been taken on inventorying and surveys of plant genetic resources *in situ* as represented by wild plants for food and agriculture (medicinal herbs, wild fruits, forage grasses, forage legumes etc)' (FAO 2008: 10). In St. Vincent, over a decade on, this still holds true. As more North American-inspired 'fast food' ways of consumption take over from traditional provision grounds, the younger Garifuna

population are taken ever further away from traditional foodstuffs, and with an emphasis placed upon more industrialized modes of food production, focus is frequently placed upon one or two crops; as such, the Garifuna are fast losing a central part of their heritage. However, the loss of ethno-botanical knowledge has more than just implications heritage depletion, for should anyone doubt the efficacy of these oft-forgotten and localized modes of economic botanical production, the 2014 outbreak of the mosquito-vectored disease Chikungunya was combatted, successfully in some cases, with traditional herbal medicines (Baloda 2016).

<H4> Alexander Armstrong's Enlightenment Globalised Garden

We now turn to a garden of a quite different character. Discussions on the establishment of a botanical garden on the St. Vincent date to June 1765, two years after the country was ceded to the British as part of the Treaty of Paris (February 1763). The island was under the control of the British War Office, and effectively a garrison. The Governor of ceded territories, General Robert Melville (1723-1809), on a visit the island met with Dr. George Young (c.1726-1803), the surgeon of the island's military hospital, and suggested the establishment of a botanic garden that would provide medicinal plants for the military. To this end Melville ordered six acres of previously delegated military land to be set aside for this purpose and instructed Young to get information about indigenous medicines from 'all quarters' of the island, even if that had to be paid for by seeking out 'physical practices of the country, [from] natives of experience and … old Caribs and slaves who have dealt in cures' (Melville in Howard and Howard 1983a: 12; Howard 1996: 1-2). As such, the establishment of the botanical garden was almost totally reliant on the ethno-botanical knowledge of the islands indigenous and African-Carib populations, and enslaved African peoples.

With the botanical garden designed to aid the colonial development and military occupation of the island, Dr Young had expected financial aid from London, however, this was not forthcoming. As such Dr Young decided to initiate his own programme of plant introduction. Liaising with both the British War Department and East India Company, he gained seeds and plants from tropical India, British North Borneo, Sabah and Sarawak in the East Indies, and China (Howard & Howard 1983a: 12-15) and by drawing on his French horticultural contacts, he travelled to obtain plants and seeds from the French Caribbean (Howard 1996: 2). In 1773, just six years after the garden's establishment, Dr Young produced a list of plants growing on the site, which John Ellis, a notable English naturalist, stated were, 'the most useful plants, intended for the general benefit of the American Islands, many of which may in time become profitable articles of commerce' (Ellis 1773: 10). As such the development of St. Vincent's botanical garden grew from just ensuring the health and welfare of those engaged in the island's occupation, to also securing the Britain's colonial future in the Americas.

The primary need for medicinal plants to aid British colonialism is evident from reports on the condition of the men in the Kingstown garrison during the Carib wars of 1769 and 1773. Beset with 'extensive sickness among the soldiery' eventually a treaty had to be negotiated with the warring Caribs (Greene 2013: 1). But it was not only the military that was in need for medicines to assist the successful colonisation of St. Vincent, for succumbing to topical diseases affected soldier and settler alike, and Melville's decision to establish a botanical garden with a medicinal bent was one that anticipated this need (Dillman 2015: 155).

The development of the botanical garden as a source for medicinal plants was slow. By 1773 Young only had 15 medicinal plants growing. These ranged from laxatives and diuretics to remedies for coughs, with just one plant (*simarouba*) being used to treat malaria (Howard 1997-98: 14); it is perhaps no wonder that so many succumbed to Caribbean diseases. In 1784, after a hiatus of French re-occupation, Young recommended the garden be handed over to a younger man and nominated Dr Alexander Anderson (1748-1811). Anderson was a Scottish surgeon and botanist who owned a personal library that contained many medicinal books of the time (Howard 1994) and his commitment to the cause led him to live on site in the Botanical gardens (the Superintendents House – see fig. 3) with his wife Elizabeth and a young 'mulatto' (Pomeroy 1990: 148 n.18) originally from Antigua by the name of John Tyley who Anderson employed as a watercolor artist; Tyley's signature appears on 10 of the 148 illustrations in *Hortus Vincentii Tabulae* which Dr Anderson complied circa 1800 (Howard 1997-98: 17).

In 1785 Anderson received orders from the botanist and president of The Royal Society of London for Improving Natural Knowledge (now The Royal Society) Sir Joseph Banks, to submit a list of plants growing in the botanical garden and to report his new botanical introductions at quarterly intervals thereafter (Banks 1792). A list of the plants dated 1 June 1785 appears as part of a letter from Dr Anderson to Banks. The 1785 list and letter (MSS And: Fol. 160) is housed in the Natural History Museum in London, and records, according to Howard (1996), at least 348 different kinds of plants categorized into commercial, medicinal, esculent (edible), ornamental or timber species. It further includes, again according to Howard, all the useful plants on Dr George Young's 1773 list (Howard 1996: 3). The original document has not been digitized, nor it is available to view due to fire damage, but there is an old photocopy available by appointment. In

examining this photocopy, although the quality is poor, the Latin list of plant names is largely readable, and is published here as Appendix B. However, on closely inspection of the plant list (MSS And: Fol. 160), we contend that this manuscript is not as Howard claims, Anderson's 1785 list comprising 348 plants, and Young's 1773 list of useful and economically important plants. To support this finding, we noted that the whilst the document comprises two parts, the first part is a two-page neatly written list of plants with the first page titled, dated (June 1st 1785), and signed by Anderson. It comprises 50 plant names in two closely spaced columns, with the second page listing 9 plants (although the first plant listed is unreadable due to the fire damage). This second page concludes with a comment on the Tobago nutmeg noting, 'this appears to be a species of the true nutmeg, may probably be improved by cultivation, I have yet to perfect specimens of it …'.

The second list of plants in MSS And: Fol. 160, comprises 29 pages. This list is split into two sections. Section one comprises a list of approximately 348 plants over 26 pages; the listed plants are in widely spaced single columns on the right-hand side of the paper, although the title is missing due to the fire damage. Occasionally on the left-hand side of the paper is noted additional plant names accompanied by the number 87 or 1787 (totally 18 plants); several of the right-hand listed plants also have 1787 after them (totally 16 plants). The second part of this second list comprises 3 pages and lists approximately 57 plants closely spaced with some additional comments; some entries have a number suggesting the quantity of these plants (i.e.: *Gardenia florida* - - - 1), others have a number and additional information (i.e.: *Elais guineensis* - - - oil palm 2*)*, and several more have just additional information (i.e.: *Randia aculeata* – bastard indigo).

As the second part of MSS And: Fol. 160 is very different in layout and neatness of script to the first part, we strongly suggest it may be a working copy of plants post-dating Anderson's neatly presented 1785 two-page list of circa 59 plants; indeed the 87 or 1787 additions suggests the second longer list postdates 1787. The final page of this second document lists 'Oranges, Shaddoxhs, Limes, Lemons' noting that 'many of them [have been] destroyed by sheep & cattle', and of the Tobago nutmeg states: 'bearing fruit may probably be improved by culture is evidently a species of nutmeg;' this is a resumé of the comment on the same plant found on the shorter, neater document dated 1785. Thus, it is our contention that only the plants listed in the first document were in cultivation on Anderson's arrival in 1785; that is there were a little over 59 plants in situ the year after Anderson took charge of the garden, not the 348 plants as Howard contends. This means that the Botanical garden was very poorly developed in its earliest years.

However, whilst Anderson's 1785 list of plants may be somewhat slight in number of varieties, it reveals much about the development of the garden and its importance as a place for medicinal and economically valuable plants. It also represents a modernist and colonialist desire to classify and typologise. By comparing the plants listed in this document (the 1785 list of circa 59 plants) to Anderson's later lists of plants (a 1792 list send to Banks (Banks 1792: 56.02), and a 1806 list of plants sent to The Society of Arts (Guilding 1825: 31-47)), the make-up of garden in its early years is made clear, and the development of Anderson's botanical knowledge is evidenced. Of the circa 59 plants, 20 are medicinal (commercial and medicinal, or just medicinal), 13 are edible (Esculents, and Fruits), 12 are valuable woods or have other economic value, and 8 are ornamental or exotic; 2 plants on the 1785 list have a different gross category in relation to the

1792 and 1806 lists, and 3 of the 1785 listed plants we have been unable to identify – it is likely local names were noted that dropped out of use once taxonomy was more securely formed. Thus, we can state that between 1773 (using Youngs list of plants in Ellis 1773) and 1785 (using Anderson's list of circa 59 plants in MSS And: Fol. 160), only 5 additional medicinal plants were introduced and remained viable. In this period, life on the island was chaotic for the British settlers with not only after-effects of the First Carib War (1769-1773), but also the effects of Island's occupation by the French (1779-1783), and by looking at later lists, it is evident that cultivating and understanding the use of medicinal plants in the Botanical garden was a priority.

In 1791 Anderson complied another list of the plants. In this list, additional information to the plant name is provided. Typically the additional information relates to the quantity or quality of each plant; i.e.: in 'The Most Valuable in Medicine and Commerce' we find '*Canella alba* – in plenty', in 'For Economical Uses' we find '*Agave vivipara* – fences, thread liner', and in 'Valuable Woods' we find '*Calophyllum calaba* – a very valuable wood, a beautiful tree'. It appears that as the botanical garden developed, so did Dr Anderson's understanding of the plants growing there. This is most clear from his honesty about his limited knowledge of several species; one section is entitled 'The Following not having as yet flowered in the garden, I am unable to ascertain them' and in this he notes simply, '*Gondola* – by Captain Blyth', and '*Wild Tamararina* – Bahama Island'; Anderson mentions only what information he had.

Anderson's 1791 list of plants in the Botanical garden on St. Vincent is unpublished and comprises part of an uncatalogued correspondence held in the Royal Botanical Garden archives at Kew (Anderson 1790). In his letter 'State of His Majesty's Botanical gardens, Island of Saint

Vincent, June 24 1791', Anderson notes the garden has 16 acres under cultivation, employs one gardener and 12 'negroes'. As well as the plants previously under cultivation, he also lists those introduced since 25th March of that year. The list is divided into a number of sections: 'The Most Valuable in Medicine and Commerce', 'Esculent', 'West Indian Medicine', 'for Commercial Uses', 'Valuable Woods', 'Fruits', 'Exotics of whose properties are yet unknown', and 'the beautiful and rare plants in the garden'. Of interest here is his list of 53 medicinal plants with their cures. Information on the cures appear to have been gained from a variety of sources as several plants mention a category of people; French settlers, local Caribs, and enslaved Africans. The transcribed list of West Indian Medicine plants is provided in Appendix C.

In cross-checking Dr Anderson's 1791 list of medicinal plants against those appearing under the medicinal category in the aforementioned 1792 and 1806 lists, it is notable that several plant names have slightly amended spellings in later lists. However, 4 plants appear exclusive to the 1791 list which suggests that the plants had originally been miscatalogued, or that they disappeared from the garden by natural demise or deliberate removal. However, there are two reasons why disappearance seems unlikely. Firstly, failure to thrive is improbable given the 4 plants appear to have been useful to previous inhabitants. Secondly, as the listed cures for these 4 plants have changed little or not at all when set against contemporary information, deliberate destruction seems implausible. We therefore contend that these 4 plants were incorrectly named on the 1791 list and appear on the later lists differently name; this explanation is supported by the 1785 list appearing to contain 3 plants with local names. Further work is required on pre-taxonomically secure plant naming (Boyle *et al.* 2013) and in particular, we suggest, in relation

to St. Vincent where information about medicinal plants was gathered from indigenous and enslaved peoples (Kim 2014).

Examining closely Anderson's 1791 medicinal list with its cures, a good number of common conditions are noted; ague (1 cure), cuts and flesh wounds (1 cure), digestive problems (1 cure), dropsy (2 cures), dysentery (1 cure), fever (4 cures), rash (1 cure), ringworm and parasites (2 cures), thrush (1 cure), ulcers (1 cure), and yaws (2 cures). The most commonly named cure is for obstructions (9 cures), with cures for venereal disease the next most frequent (5 cures). Additional plants are noted as used by 'the French' (2 cures), used by 'Blacks and Whites' (3 cures), and a good number are noted as substitutes for other plants (9 cures). Many listed plants and cures assume prior knowledge as no usage information is given against them, however, some plants include information such as decoction, infusion, or use of specific parts of the plant such as roots, stems or juice. The presence of plant use information appears to suggest that these plants and cures could be new to Dr Anderson, and/or to the recipients of his lists. Although a lack of detailed information on medical plant use was commonplace during this time (see for example Culpepper's *Complete Herbal* (1850 [1653])), where Dr Anderson could, he gave more detailed information than other authors of his era. The use of cassia for belly-ache is a case in point. In 1803, a fellow settler on St. Vincent, Dr David Collins, published *Practical rules for the management and medical treatment of negro slaves in the sugar colonies, by a professional planter*. The second part of Collins' book included a variety of cures, but whilst he wrote much on each particular medical condition, where plants are mentioned, Collins fails to provide details. For instance, to cure 'Belly ache' Collins advises the use of cassia after liquid laudanum has been given (1803: 273), but he provides no information on the species of cassia, let alone which

part of this flowering plant should be used. However, in Dr Anderson's 1791 list, he notes that a decoction of the leaves and roots of two specific species of cassia can be used as a substitute for senna; senna being a recognized laxative, and constipation being a known cause of belly-ache. Dr Anderson's more scientific approach to his plants provides a window therefore not only into the growth and development of the botanical garden on St. Vincent, but to the vernacular use of medicinal plants for without doubt Dr Anderson' knowledge of medicinal plants was enhanced by local information.

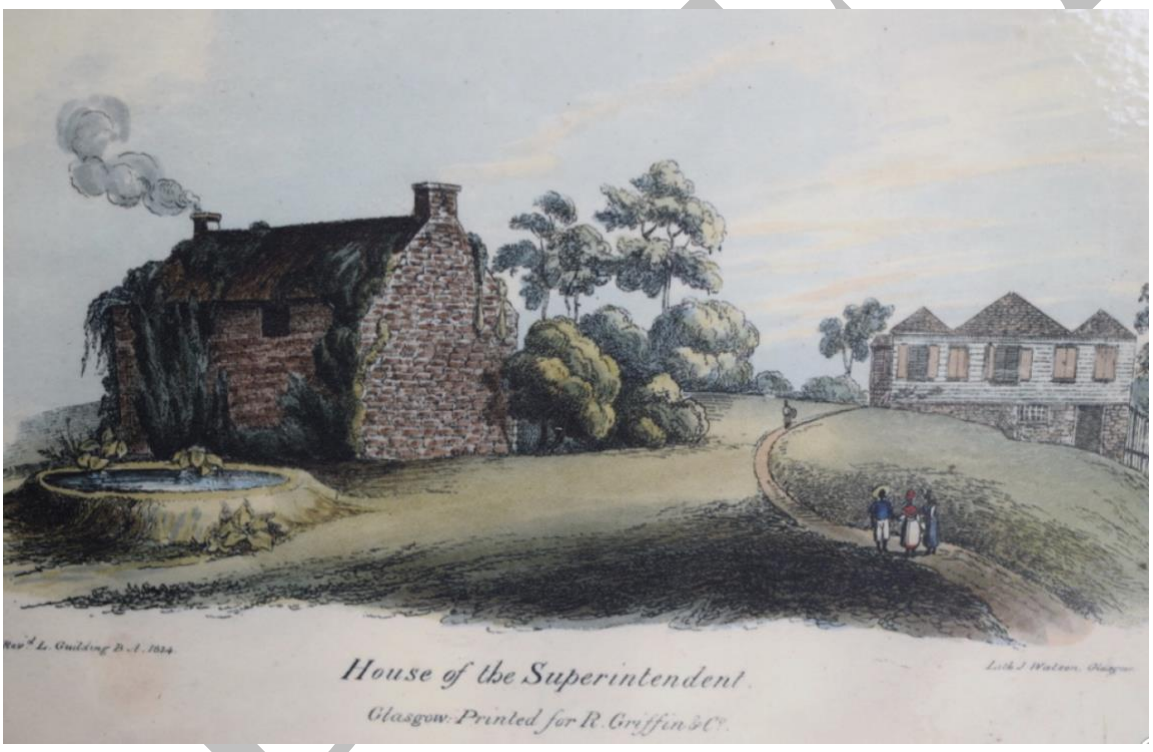

Figure 3: Contemporary print of the house of the Superintendent of the Botanical Gardens c. 1824.

The archival material discussed above offers an insight into the truly global reach of the garden, yet at the same time a place also grounded squarely in local botanical knowledge too. This local

angle is not reflected greatly in the interpretation around the garden. Much has been written about the breadfruit and how its transplantation assisted in the development of sugar trade (see DeLoughrey 2008, Mackay 2017 [1974]) yet without prior knowledge, visitors to the St. Vincent Botanical Garden would be largely unaware of the colonial significance of this particular plant, and this is a concern as the botanical garden is not only an important heritage tourism site for the country attracting many foreign and local visitors, but is an educational resource. The garden's 'Educative Trail' (established in 1998) was financed by the Ministry of Tourism and is designed to assist school children in learning about plant history and usage, and also acts as a general educational tool for Vincentians and visitors. Further, official guides can be engaged to take visitors around the site to learn about the plant specimens on the site. The guides however, have no formal training and learn their facts and figures 'on the job'; having been escorted around the garden by different guides on several occasions between 2018-2020, the authors can testify that the information varies somewhat depending on who is doing the guiding. The static displays as noted, tend to over emphasize the breadfruit's historic arrival on the island and its dietary worth at the expense of its role in providing cheap nourishment to enslaved Africans and the importance of indigenous skills in its successful propagation. Indeed, to some extent, the whole interpretative experience in the botanical garden presents a rather globalized view of plant use. By this, we mean that the stories of local and indigenous plant practices are under-played while the global (colonial) networks of plant exploitation are more highly emphasized; Figure 4 shows a contemporary view of the garden with benches for tourists and large Grecian style urns for decoration. This contrasts with the more locally rooted work undertaken by both the Garifuna Heritage Foundation, a grassroots organisation that seeks to promote Vincentian Garifuna

heritage and culture, and a small-scale community heritage initiative in the Garifuna settlement of Greiggs Village: John Nero's Garden.

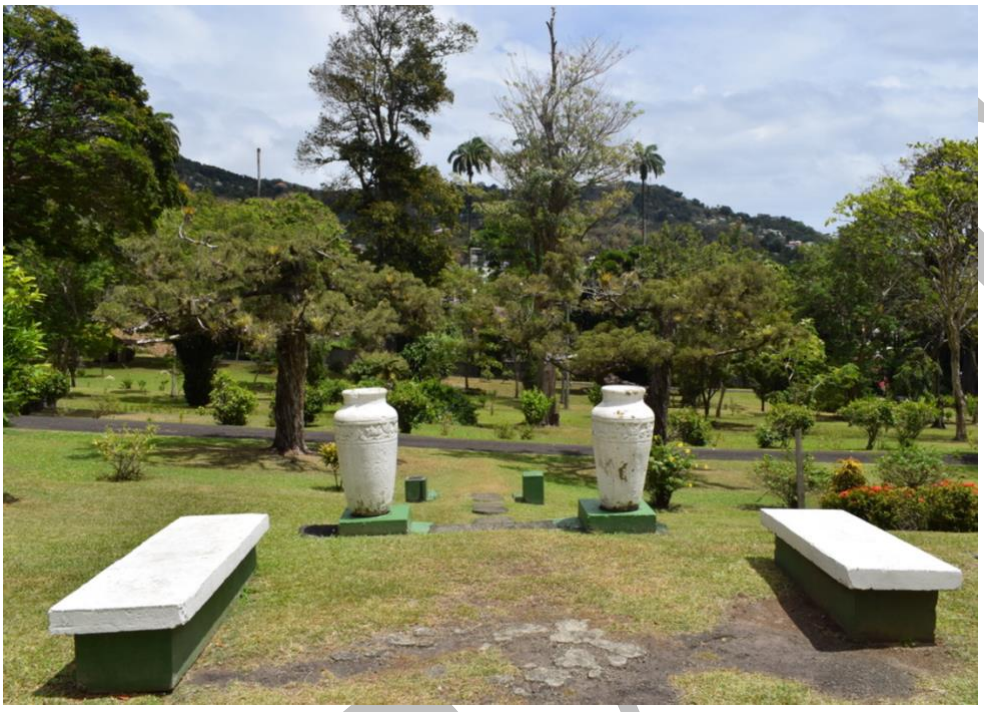

Figure 4: View eastwards over the Botanical Garden 2020 © Finneran 2020

<H>Conclusion

Our studies among the Garifuna of St. Vincent highlighted the importance of intangible heritage relating to culinary and medicinal plant knowledges, and led us to study how these knowledges are showcased on the island. The historic Botanical Garden is very much the epitome of the colonial, modernist enlightenment project, a museum of globally-sourced plant material, some with culinary and medicinal uses and others with economic or ornamental value. As it was at its outset under Drs Young and Anderson, it remains clearly a project aimed explicitly supporting

513 the colonial system, framing global indigenous plant knowledge systems within a modernist
514 context whilst negating the part played by indigenous and enslaved African peoples in gaining
515 this knowledge. That history is particularly evident in the collections of *Lignum vitae* (a tree that
516 produces a durable wood resistant to insect attack) and nutmeg trees, which reflect colonial
517 period architectural and construction works and the trade in luxury culinary goods, whilst
518 broadly supporting the economic, social and physical health of the colonizers, both civilian and
519 military. Plant resources here derive from local, regional and more global contexts. The lack of
520 nuance in regard to the introduction of the breadfruit to the island with its negation of its central
521 role in keeping the enslaved peoples fed, further supports the colonial focus of the Botanical
522 Garden today. By exploring the background to the Garden and its early development under the
523 direction of Dr Young, and especially Dr Anderson, and through interrogating historic records of
524 plants, it is evident that medicinal plant knowledge gathered from indigenous and enslaved
525 peoples laid the foundations for the expansion of the settler community on the island, and
526 colonialism in the Americas; not only was this important information provided to Dr Anderson
527 but the knowledge travelled to learned societies in London and thence onwards.
528
529 In contrast, the underpinning narrative of John Nero's garden speaks perhaps of something closer
530 to pre-modern pre-enlightenment knowledge; of the importance of the local, of land and intimate
531 connections with place. In its almost secret nature, it echoes the hidden and resistant history of
532 the Garifuna people who largely went underground in the colonial period and yet drew heavily
533 from the expertise of the colonizers (cf Pulsipher and Godwin 2001 for a similar ethnobotanical
534 perspective from Montserrat). Now in the 21st century this history is being reframed as a question
535 of Garifuna self-identity where intimate connections to ancestral landscapes and plantways are

being emphasized; albeit with an eye on the commercial possibilities of consuming 'natural' and 'indigenous' knowledge through an eco-heritage centre for tourists. Of course, many of the plant resources in John Nero's garden owe their presence there to colonial contact and the socio-economic repression of enslavement; whilst important in terms of de-colonising Garifuna plant heritage it certainly does not represent a pristine Garifuna Eden.

In studying the complex and long-term human cultural history within the Caribbean insular settings, one term frequently comes to the fore: creolisation, or cultural mixing. This is a process born out of 18th-century globalization, a factor that resulted in the ethnogenesis of the Garifuna people as well as the realization of the Kingstown Botanical Garden. While the term creolisation has often been applied to elements of portable material culture, architecture, and intangible concepts such as dance, song and religious behaviour, human-plant interaction has rarely been seen through this prism. Both heritage settings considered above offer us the chance to see this process at work, albeit in two historical different contexts, an avowedly modernist and an almost pre-modern project. Moreover, the analysis here demonstrates that the tangible and intangible heritage of Vincentian historic plant exploitation has strong continuing cultural, social and economic relevance today.

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560 Competing Interests: There are no competing interests

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563 Author contributions: Anderson section research and transcription of Anderson manuscripts – Dr
564 Welch; John Nero section research and transcription of Garifuna exhibition – Dr Finneran; paper
565 co-written and edited together, and research in St. Vincent conducted together

566 Data Availability: data sets have not been deposited in public repositories

567 Ethics Approval: All ethics approved by the Ethics Committee at the University of Winchester,
568 UK

569 Consent for publication: consent to publish transcriptions of archival material given by Kew
570 Botanical Garden, the Linnaean Society, and the Natural History Museum. Consent to replicate
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Figure Captions

Figure 1: Map of St. Vincent showing key sites mentioned in the text (https://www.arcgis.com/home/webmap/viewer.html?webmap=89db2a206d224a0f88121211900 0e163)

Figure 2: John Nero's Garden, Greiggs Village, July 2019 © Finneran 2019

Figure 3: Contemporary print of the house of the Superintendent of the Botanical Gardens c. 1824.

Figure 4: View eastwards over the Botanical Garden 2020 © Finneran 2020