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# Historical versus contemporary medicinal plant uses in the US Virgin Islands



J. Soelberg<sup>a,c,\*</sup>, O. Davis<sup>b</sup>, A.K. Jäger<sup>c</sup>

<sup>a</sup> Museum of Natural Medicine, University of Copenhagen, Universitetsparken 2, 2100 Copenhagen, Denmark

<sup>b</sup> Cooperative Extension Service, University of the Virgin Islands, Kingshill, St. Croix, USVI, United States

<sup>c</sup> Department of Drug Design and Pharmacology, Universitetsparken 2, 2100 Copenhagen, Denmark

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## ABSTRACT

**Ethnopharmacological relevance:** Hidden in the documents of the dark past of the trans-Atlantic slavery are gems of ethnomedicinal observations, supported by herbarium specimens, which tell of the traditional medicine of a by-gone slave society in the Caribbean. In the context of the former Danish West Indies (now US Virgin Islands), we identify pre-1900 medicinal plants and their historical uses, and trace their status in the traditional medicine of St. Croix today (2014). By a combined historical and ethnobotanical approach we assess the scale of loss and preservation of traditional medicinal knowledge on St. Croix, and explore the drivers involved in the disappearance of knowledge in the oral tradition of medicine.

**Materials and methods:** Names, uses and identities of 18th and 19th century medicinal plant uses in the Danish West Indies were derived from manuscripts and publications of Von Rohr (1757/58), Oldendorp (1777), West (1793), Benzon (1822), Riise (1853), Eggers (1876;1879) and Berg and Eggers (1888). The presence of the plant species in the pre-1900 Danish West Indies was confirmed by review of herbarium specimens in the University of Copenhagen Herbarium (C). The same species were collected on St. Croix in 2014 or their ecological status discussed with local specialists. Semi-structured interviews supported by photographs and specimens were conducted with six medicinal plant specialist on St. Croix, to document and compare contemporary names and uses of the historically used medicinal plants.

**Results and discussion:** The historic ethnomedicinal sources revealed 102 medicinal uses of 64 plant species. Thirty-eight (37%) of the pre-1900 medicinal uses were traced in interviews, while sixty-four uses (63%) appear to be forgotten, discontinued or otherwise lost. Thirteen species appear to have entirely lost their status as medicinal plants on St. Croix, while 32 species (50%) have lost uses while retaining or gaining others. While 20% of the lost medicinal plant uses can be explained by biodiversity loss, and others likely have become obsolete due to advances in public health and scientific medicine, 33 of the 64 lost medicinal uses of non-rare species uses fall in the same categories as the preserved uses (fever, stomach, wound, laxative, pulmonary, intestinal, pain, anthelmintic, blood purifier, eye-inflammation). We therefore argue that at least half of the known pre-1900 medicinal plant uses have become culturally extinct for other reasons than to biodiversity loss or modern obsolescence.

**Conclusions:** The present study utilized knowledge from an oral medicinal tradition, documented in the context of a colonial society. Without doubt, basis for further similar studies exists in the more or less accessible archives, herbaria and collections of former colonial powers. Such studies could directly benefit the descendants of the original intellectual property holders culturally and economically, or serve as stepping stones to integrate, or re-integrate, lost medicinal plant uses in both local and wider evidence-based contexts.

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## 1. Introduction

The number of herbs that can be used for the restoration of health is incontestably quite considerable in these islands. Among the islands' inhabitants, the Negroes seem to have the most extensive knowledge about the healing powers of these

\* Corresponding author at: Museum of Natural Medicine, University of Copenhagen, Universitetsparken 2, 2100 Copenhagen, Denmark.

E-mail address: [jso@sund.ku.dk](mailto:jso@sund.ku.dk) (J. Soelberg).

plants. Even European physicians do not hesitate to learn as much as they can from them and then make use of that knowledge, in return for remuneration (Oldendorp, 1777).

While slave trade and slavery constitute a dark chapter in the history of human interactions between Europe, West Africa and the Caribbean, valuable information of traditional medicinal plants exists as hidden gems dispersed among colonial documents. On the former Danish Virgin Islands, as elsewhere in the Caribbean, a white Euro-Caribbean class ruled for centuries a black slave society. Though documents show that the ruling class possessed a general self-proclaimed (racial) superiority, there are also passages which demonstrate their intellectual esteem for the blacks' knowledge of the healing powers of plants (and dreaded plant poisons). In some cases, specifics of this ethnomedicinal knowledge, otherwise borne entirely in an oral tradition carried from Africa and adapted to the Caribbean environment, found way into the manuscripts of doctors, missionaries and botanists. More often than not, the written languages of these European observers, e.g. Danish, German and Latin, are obscure and the documents inaccessible to the descendants of the original intellectual property holders, present on the islands today.

The US Virgin Islands, formerly the Danish Virgin Islands or Danish West Indies, is a tropical island group in the northern Lesser Antilles of the Caribbean Sea (Fig. 1). The main islands comprise St. Thomas, St. John, Water Island (since 1996), and St. Croix. The latter is situated 64 km (40 miles) south of the others, and was the landing point of Christopher Columbus' second voyage to the Americas and the site of the explorers' hostile encounter with indigenous "Island Caribs" in 1493 (Wilson, 1997).

The pre-Columbian inhabitants of Virgin Islands had largely migrated or succumbed to disease, slavery and genocide before the French possession of St. Croix in 1650 and the Danish colonisation of St. Thomas in 1672 and in St. John in 1718. In 1733 the Danish West India Guinea Company bought St. Croix from the French. Hereafter the three islands were under almost continuous Danish rule, until they were purchased by the United States in 1917 (Dookhan, 1974).

The Danes were in it for the profitable colonial goods. Reaching its peak production in 1812, the island of St. Croix had become fourth largest sugar producer in the world (Tyson and Olsen, 2012). The island of St. Thomas profited mainly from international

free trade in the natural harbour of Charlotte Amalia, while St. John produced at various times a mix of sugar, coffee and distilled oil from leaves and fruits of the West Indian Bay tree (*Pimenta racemosa* (Mill.) J.W. Moore), for the production of the popular Bay Rum cologne.

The economy of the Danish Virgin Islands relied heavily on import of mainly West African slaves. The slave trade to and through the islands comprised both private and international trade as well as direct national trade from the Danish fortresses on the Gold Coast (present-day Ghana). Arriving slaves were sold at the public slave markets, shipped to other Caribbean islands, or forced to labour in the Virgin Islands' households, industries and plantations.

The ethnic makeup under the Danish rule consisted of mainly African and Afro-Caribbean slaves of West African origin, some Euro-Caribbeans and a few free Afro-Caribbeans. Despite overmortality, the slave population increased through most of the colonial rule, fuelled by import from Africa. The slave population peaked at 36,000 around the time of the Danish ban of international slave trade in 1803. For much of the period, the quantitative relationship between Euro-Caribbeans or *blancs* (whites) and enslaved *negroes* (blacks) was around 1:10. (Hall, 1992). With the re-supply of slaves from Africa being cut-off in 1803, slave owners were motivated to preserve the health and life of their valuable enslaved workforce, at least to a greater degree than before (Thode Jensen, 2012).

Slavery was finally abolished in the Danish Virgin Islands in 1848, by the demand of eight thousand slaves before the gates of Fort Frederik. However, abolition for many former slaves resulted in even lower living standards, low wages and deteriorating health care. Economic decline of the islands continued well into the 20th century. Although the islands were purchased by the US in 1917 mainly for strategic military purposes, the US Navy administrators also oversaw social reforms, reorganized hospitals and implemented vaccination programs (Dookhan, 1974).

Today, St. Thomas, St. John and St. Croix has the status of an organized, unincorporated territory of the USA. Residents are US citizens. The population was estimated to be 103,504 people in 2015. Ethnicities are grouped as 76.0% Black, 15.6% White, 1.4% Asian and 2.1% mixed/other, by a 2010 estimate. The primary economic activity is tourism, trade and other services, and some rum distillation. Economically, agriculture is almost neglectable,

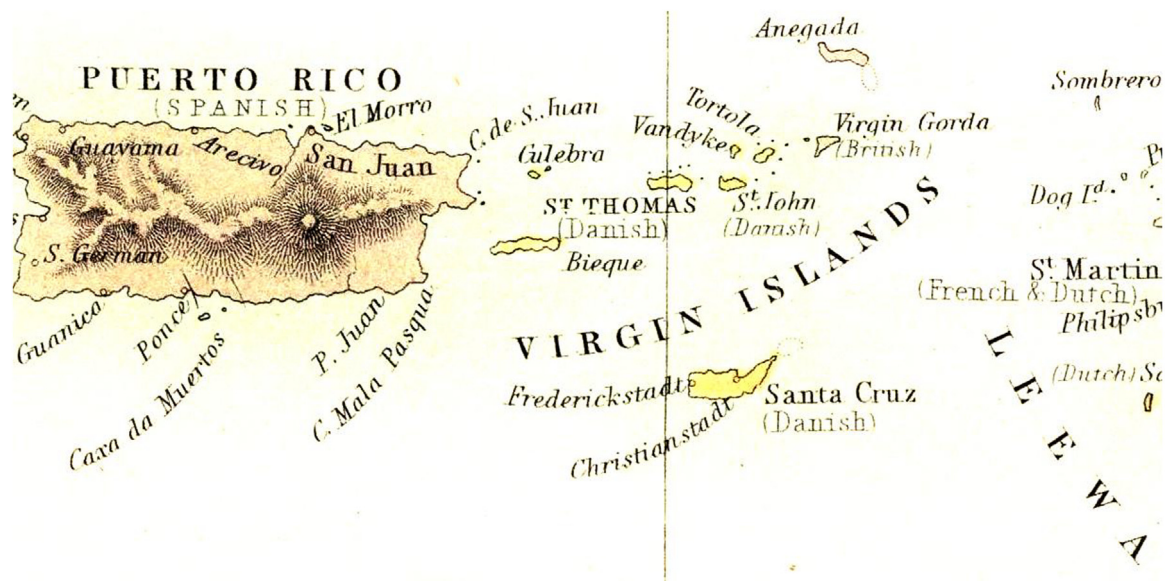


Fig. 1. Historical map (1872) of Puerto Rico and the Virgin islands.

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