



A tale of the bygone era: understanding colonial India through plant exploration

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Place – Nilgiri hills, Tamil Nadu Date – 17th June 1857

It was a hectic day for Beddome. Since morning he was roaming in the forests to understand the vegetation and was collecting the ones appearing new to him. Even for a trained person like him, the strenuous tour in the forest in this part of the world is still a challenging task due to its rich vegetation, profuse wildlife, and different tribal groups. Not to mention that he is visiting a new country and is alien to its people, new culture and relatively ignorant of the administrative tension between the company officials and the locals. Beddome was pondering over last night's discussion with Samuel Scot, a locally stationed army officer, about the ongoing conflict in north India between the Sepoy and the company army. Europeans have to be cautious nowadays while interacting with native people. The governor of Madras Presidency kept a tight vigil over the native soldiers, however, once you are out of the city you are on your own. A tap on the back returned him to the forest, his local acquaintance was pointing towards a plant which seemed new to him. He bent over the plant for better observation.

Place – Herbarium section, Botanical Survey of India, Coimbatore Date – 19th April, 2017

Paramita is standing confused inside the big herbarium room full of steel almirahs with small chambers. She is here to study the morphological characters of a few plant members of the Myrtaceae family, i.e. the Jamun family. A quick look at the Myrtaceae collections has sparked her awe and realization that how diverse the collection is and the entangled history behind it. Being an ecologist she has a fairly good idea about the ups and downs of the field work at different landscapes. However, instruments like GPS-enabled mobile, local guides, omnipresent “Google maps”, topo maps, extensive road networks, and other necessary items technically make her work easy, cost-effective, and time-bound.

While returning to the hostel at the end of day's work, Paramita thanked herself for being a 21st century ecologist, largely assisted with cutting edge technological support, certainly a distant dream for her botanical predecessors. For a whole week, she was smitten by the herbarium records which linked her with those known and unknown names of the bygone era whose hard work spanning the last three centuries shaped Indian Botany to a great extent.

Like Paramita, others who visit the Botanical Survey of India herbarium at Coimbatore may see three framed herbarium sheets on the wall of the main working section citing the oldest collections of the herbarium from the year 1797-99 by J.P. Rottler (Fig.1). For enthusiastic readers of Indian history as well as for botanists, the year 1799 may ring a bell, since that time slice was a game changer for India's political history. It was the same year when the 4th Anglo-Mysore war happened and Mysore ruler Tipu Sultan was overthrown by the British East India Company.



Fig.1 Late 18th century herbarium sheets at Botanical Survey of India, Coimbatore circle.
(Photo: Rajasri Ray, Image Source: Botanical Survey of India, Coimbatore Circle, Tamilnadu)

Subsequently, the company gained control over a vast territory in southern India. From a botanical point of view, this was the time when the company decided to conduct elaborate surveys across the controlled territories in Bengal and south India. Accordingly, Francis Buchanan Hamilton made his historical journey (1800) from Madras (today's Chennai) through the countries of Mysore, Canara, and Malabar intending to document every possible aspect of people and their interaction with nature. Agriculture and commercially important plants were important components of that mission. As the contemporary Governor General Lord Wellesley specifically mentioned "The first great and essential object of your attention should be, the Agriculture of the Country; under which head, your enquiries should include and tend to ascertain the following points with as much accuracy as local circumstances will admit." The points were vegetables, cattle, and farms. Similarly, natural products of commercial interest like Cotton, Pepper, Sandalwood, and Cardamom were also mentioned to pay attention to.

Before the Mysore survey done by Buchanan, Europeans' entry into the Indian floral territory was individualistic and to some extent financed by trading houses (e.g. commercial plantation experiment by William Roxburgh at Samalkot supported by British East India Company). Botanical history provides us with names like Garcia d'orta, Hendrik van Rheede from the 16th-17th centuries, Johan Koenig, John Peter Rottler, William Roxburgh, Benjamin Heyne from United Brothers (18th century), and others who were most active around the coast and surrounding areas. If you think about their interests, exploring the unknown natural world dominates the arena. Plant exploration was like collection of the specimens, documentation

(sometimes accompanied with drawings) and dispatched the collected materials to the learned personnel in Europe. At that time, India was the most sought-after country for the European nations in terms of its rich trading history, diverse social-cultural-religious practices as described by ancient and medieval travelers, and faraway eastern land for adventure. The majority of the pre-19th century flora works were based on knowledge accumulation on the medicinal plants, plants of commercial interests, and plants hitherto unknown to Westerners.

At the onset of the 19th century, a vast part of inland India was open to foreigners. So, several flora works were reported from the Indo-Gangetic basin, the Himalayas, north-west and north-east frontiers yet motivation was diverse. The contemporary Mughal Empire in northern India was in its waning phase, regional chieftains were in prominence, and the British East India Company was consolidating its administrative power. As the company was interested in revenue increment they put their maximum effort towards resource exploration in productive landscapes like South India and the Indo-Gangetic basin. A quick view of the trade items during the early colonial period (18th century) lists items like calico, spices, and foodstuff while in the earlier part of the 19th-century indigo, raw silk, and opium took the central position along with cotton. However, from 1850 onwards the export gradually shifted to raw cotton, raw jute, tea, seeds, hides, and skins. Undoubtedly, plant products dominated the trade; as a consequence, it initiated a couple of activities like resource exploration (for medicinal plants, dye-yielding plants, seasonal foods, new plant materials for trade, etc), plantation establishment (for tea, cinchona, indigo), horticultural experiments for improved cash crop varieties (cotton, indigo, tobacco, sugar, raw silk), etc.

Likewise, shipbuilding and infrastructure development are two areas where plant exploration activities make their footprint. Since ancient times Indian coastal communities were engaged in ship and boat building practices for trading and livelihood. Both eastern and western coasts carried out the tradition which was an amalgamation of indigenous, Arabian, and south-east Asian (Chinese and Malaysia) methods. However, wood was the primary requisite and it was procured from nearby or faraway forests according to the availability. During the pre-company period, the demand and supply of the wood for shipbuilding purposes were only for the local need, thus extraction was moderate. The scenario changed abruptly after the late 18th - 1st half of the 19th century when the demand for teak wood for shipbuilding skyrocketed in Bombay and British dockyards due to its long durability and higher insect resistance. As a consequence, Western Ghats

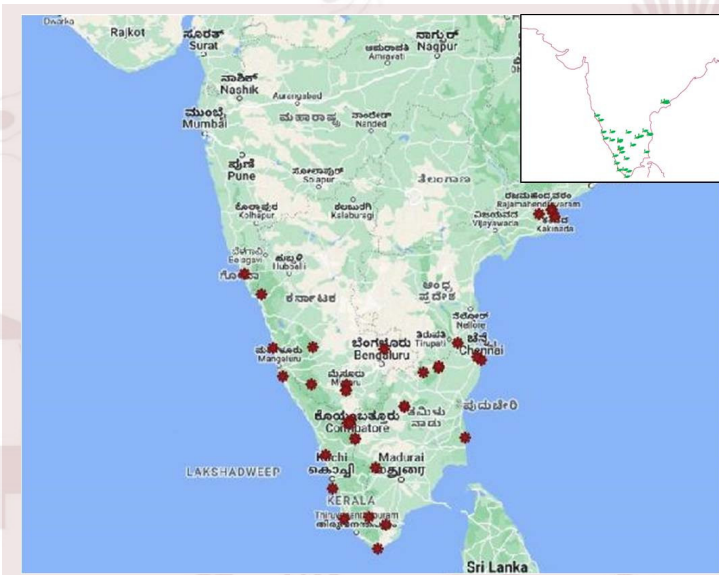
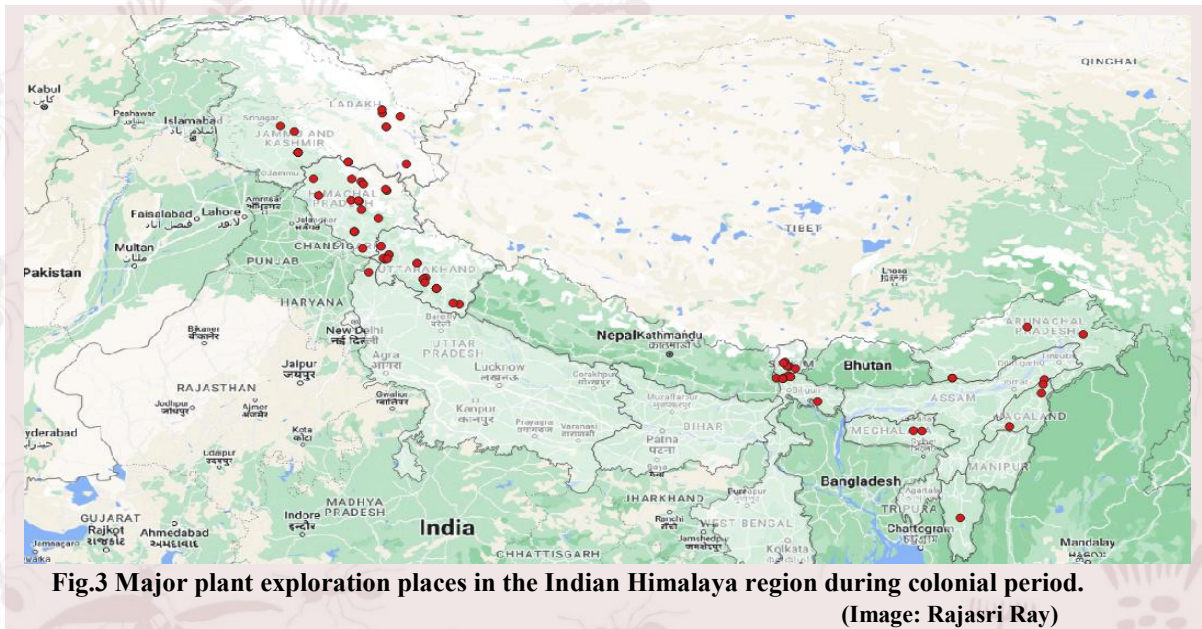


Fig 2. Forest exploration in south India (late 18th - middle of 19th century)

(Image: Rajasri Ray)

forests were extensively explored and resource drenched to meet the demand of the Western world. A representative map of this period depicts that from the 18th century to the middle of the 19th century the South Indian forest landscapes were filled with the humming of the explorers (Fig.2).

Infrastructure development was another sector that left a remarkable footprint in the natural resource domain. Except for administrative and trading centres, colonial India was “too primitive” for most westerners. Contemporary Britain was cherishing the glory of the industrial revolution and the effect started to percolate into their colonies too. Railway development can be considered an important indicator. Starting from the middle of the 19th century, the railway network was connecting the political and economically important areas to ease up administrative, trading, and military activities. Simultaneously, the requirement for wood was also on the rise for engine fuel, railway sleepers, temporary or semi-permanent shelters, etc which prompted massive exploration activities inside the Himalayan forest areas.



Anecdotal evidence shows that the Himalayan region especially the north-west frontier was a busy hub for multiple activities, especially for exploration and documentation from 1850 onwards (Fig.3). Similarly, in all other land-use-related works like irrigation development, road development, agricultural extension, and settlement planning even for military strategy, local landscape study was part of the job where plant exploration was conducted as a duty or as a passionate pursuance of individuals’ hobby or quest for nature.

Overall, plant exploration activity in the colonial period was hardly restricted to mere documentation and managing dry herbarium sheets (which perhaps makes only taxonomists interested!). It was an active strategy to boost commerce, to understand the landscape of a foreign country, to gather material for botanic gardens and nurseries, and to know about the native association with nature, and others alike. On the other end of the spectrum, it also prompted contemporary artists to capture the landscape in their paintings, fine-scale botanical

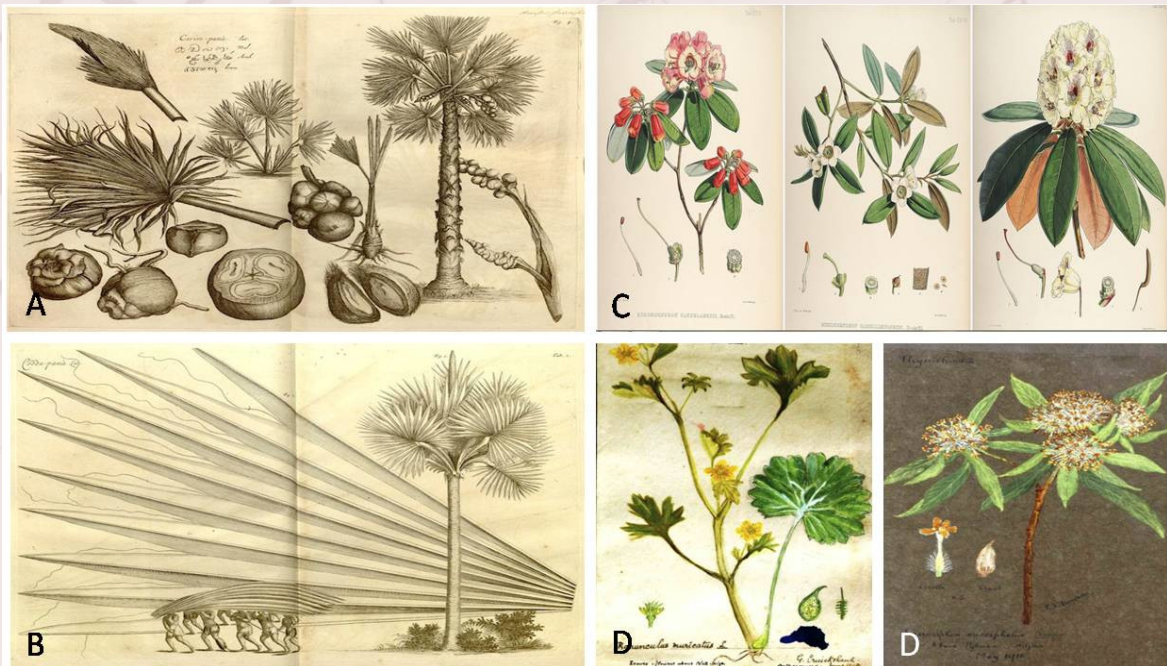


Fig.4 Drawings from the plant exploration literature. (A and B) Engravings from *Hortus Malabaricus*, (C) Drawings from *Rhododendrons of Sikkim Himalaya* and (D) drawings from *Bourne Album* (Image compilation: Rajasri Ray, Image source: A and B <https://sita-reddy.squarespace.com/malabar2>, C <https://blog.biodiversitylibrary.org/2017/06/the-rhododendrons-of-sikkim-himalaya.html> and D <https://www.arsbotanica.net/new-page-3>)

drawings, excellent travelogues, firsthand accounts of an unexplored landscape, and many more. Examples can be drawn from beautiful engravings in Van Rheedes' *Hortus Malabaricus* (with >700 engravings of plant species), the drawings in Roxburgh's *Flora Indica*, beautiful depictions in the *Rhododendrons of Sikkim-Himalaya* by Joseph Hooker, *Bourne album* from the Ooty, Nilgiri mountains, Company art form like *Patnakalam*, and countless small and unnoticed accounts (Fig.4). As obvious, Indians were hardly visible in these productions except in a few cases owing to intentional negligence or contemporary indifference from their European higher orders. However, in recent times, the efforts unleashed to unearth the local history, and socio-political dynamics of the colonial era in light of the Indian perspective. Perhaps, we may find more interesting stories of our forefathers in that historical period. Till then, these numerous herbarium sheets, travelogues, and drawings are cues from the lost past that we continue to cherish even today.

Further reading

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