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Mobilising Richard Spruce's 19th century Amazon legacy

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The extraordinary collections and observations made by the English naturalist, Richard Spruce in Brazil are finding their way out of the archives and back to their country and communities of origin, stimulating new research and perspectives on people and plants in the Amazon.



Contemporary Baniwa artefacts at Itacoatiari-Mirim, Rio Negro (Image: W. Milliken)

The Spruce collections at Kew

Richard Spruce was one of the hardy breed of botanists who explored the Amazon rainforest in the 19th century. During his 14 years of residence in South America (1849–1864), he collected over 14,000 herbarium specimens in the Andes and Amazon regions, many of which have been named by botanists as new species, and most now digitised.

Spruce's ethnobotanical collections are much less well-known, and have never been fully studied. With a total of around 300 items, they range from objects of daily life, such as cassava graters and brushes, to items of great ritual significance, such as an elaborate shield and a sacred trumpet.

Most of these objects come from Spruce's travels on the Rio Uaupés, an affluent of the Rio Negro in the northwest part of the Amazon. Many were collected from the Tukano people, who still live in this part of Brazil today, farming cassava and hunting wild animals. Re-engaging with these communities enables two things to happen: firstly, the source community can explore and explain these objects, some of which are no longer made; secondly, we can use the Spruce collection as the baseline for a study of how culture, plants and environment have changed over the last 160 years.



Dagoberto Azevedo (Tukano) at JBRJ with *Banisteriopsis caapi* (ayahuasca), a culturally important plant in the upper Amazon (Image: M. Nesbitt)

Rethinking museum collections

Since Spruce's collections arrived at Kew, they have been stored according to format: pressed plant specimens in one place, artefacts in another; manuscripts in yet another. Not only is it difficult to cross-reference data, but they are also hard for users in South America to access.

In summer 2016 we hosted two researchers from the Rio de Janeiro Botanical Garden (JBRJ), a key partner in the project. At Kew, Viviane Fonseca and Mariana Taniguchi were able to digitise several thousand pages of manuscript, and hundreds of objects. This hands-on training visit was designed to build skills in photography, specimen curation, data management and public engagement. Images of the economic botany artefacts generated through this study visit will be integrated into the Brazilian *Reflora Virtual Herbarium*, linked with Spruce's relevant 'voucher' herbarium specimens already available online.



Detail of shield, collected by Richard Spruce and photographed during the training visit to Kew (Image: RBG Kew)

During the summer, Julie Knight, a student in Ethnobotany on the Kent-Kew Masters programme was able to start building an integrated database of Spruce's collections and related information. This has opened new perspectives on the material, allowing some artefacts to be matched up to species for the first time. The process has also made it apparent that Spruce documented his work to a remarkably high standard not always met by his successors.



Biocultural collections workshop at Rio de Janeiro Botanical Garden (Image: Viviane Fonseca)

In the autumn, the JBRJ hosted a workshop to further develop an integrated approach to ethnobotanical data and collections, expanding it to include the marvellous living collections which feature many of the plants used by indigenous peoples. The final project workshop was held in the Amazon region itself.



The Rio Negro at São Gabriel da Cachoeira (Image: W. Milliken)

Engaging with indigenous communities

Our Brazilian partner Instituto Socioambiental (ISA) runs a long-standing programme in the upper Rio Negro region working with indigenous communities to support and document their traditional culture and livelihoods. This programme provided an opportunity not only to deliver training to indigenous researchers, strengthening the scientific basis of their work and engaging them with the wider research landscape, but also to re-connect indigenous communities with objects from their past.



Field training in botanical collection (left) and ethnobotanical data recording (right) (Images: W. Milliken)

The workshop, delivered by staff from Kew, ISA, Rio de Janeiro Botanical Garden, Birkbeck-University of London, and the Goeldi Museum, was run over a period of ten days from ISA's base in the riverside town of São Gabriel da Cachoeira (where Spruce lived for a year). Participants from the Desana, Tuyuka, Baniwa, and Tukano indigenous groups came down by canoe from the Tiquié and Içana rivers (also explored by Spruce) to take part in the intensive, practical training programme. The training included plant classification, botanical and ethnographic specimen collecting, recording traditional knowledge, photography, data handling and botanical illustration, with presentations and evening film screenings to stimulate broader discussion.



Hupda representative explaining a basket woven with *Heteropsis flexuosa* roots (Image: W. Milliken)

The workshop was designed as a two-way process, with many opportunities for indigenous participants to share their views and perspectives on plants and their uses, objects, collections, classification systems, ethics and cultural interpretation, as well as to disseminate the results of their own research projects. Printed images from the digitised Spruce collections at Kew were presented to participants and formed the basis for animated discussion sessions exploring history, materials, cultural roles, and change.



Discussing herbarium collection data (left) and botanical illustration (right) (Images: W. Milliken)

Throughout the course of the workshop we drew on Spruce's collections from the region for relevant examples, and explored the plants, raw materials and techniques employed in the objects he brought back to Kew (see video in 'Find out more' below).



Demonstration of bark cloth removal from *Brosimum utile* (left); bark cloth bag collected by Richard Spruce (right)
(Image: RBG Kew)

Ongoing and future work

Following the workshop in São Gabriel, 12 indigenous researchers are now back in their communities applying new skills to research projects on indigenous plant knowledge and technologies, with funding from the project. Meanwhile a methods manual, designed for use by indigenous researchers, is in preparation. The newly digitised material from Kew will support the development of further research initiatives between the UK and Brazilian partners, aiming not only to explore Richard Spruce's legacy further but to build on it with new field research in the Amazon.

- William & Mark -

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Amazon workshop group (Image: L. Martins)

Find out more

- [Instituto Socioambiental's blog on the Amazon workshop \(Portuguese\)](#)
- [Rio de Janeiro Botanical Garden's blog on the Rio workshop \(Portuguese\)](#)
- [The Many Lives of a Shield: video from Derek Jarman Lab on a fascinating Spruce artefact \(with footage from Kew and the Amazon\)](#)
- [Spruce up the Amazon: drawings at the Royal Society](#)
- [Richard Spruce in Kew's Economic Botany Collection](#)
- [Richard Spruce in Kew's Archives \(Directors' Correspondence\)](#)
- [Richard Spruce: Botanist and Explorer \(book available from Kew\)](#)
- [Reflora Virtual Herbarium](#)
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