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Unlocking the histories of botanical specimens held overseas in New York

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By CHRISTIAN MORROW

 BY RECONNECTING thousands of botanical specimens held overseas with the First Nation's Country they came from, Dr Rose Barrowcliffe has helped return knowledge to communities whose Ancestors cared for that land for thousands of generations.

Dr Barrowcliffe, a Butchulla woman and postdoctoral research fellow at the Centre of Critical Indigenous Studies at Macquarie University's Wallumattagal campus, led the groundbreaking research which reconnected Australian botanical specimens held by the New York Botanical Garden (NYBG) with the Aboriginal and Torres Strait Islander groups connected to those places.

The project used geospatial metadata — information about where specimens were collected — to identify relationships between thousands of plant samples held in the NYBG herbarium and the Countries from which they originated.

For Dr Barrowcliffe, the project began with a simple but powerful question: 'whose Country do they come from?'

The question emerged during a fellowship in the United States when Dr Barrowcliffe visited major collecting institutions, including the Smithsonian and the New York Botanical Garden.

She was surprised to discover these institutions held tens of thousands of Australian specimens, including Aboriginal and Torres Strait Islander cultural heritage materials.

"The herbarium at the New York Botanical Garden was one of the institutions I visited, and I asked whether they had any Australian items," she said.

"I was shocked by the fact that they all did — and more specifically, that they held Aboriginal and Torres Strait Islander materials.

"Even some of the smallest museums had these items. My question to the New York Botanical Garden was: "whose Country do these specimens come from? How do you know who they belong to, and what the relationship is?"

The institution's response surprised her.

"They said, 'We don't know. How would we know?'"

This became the motivation for Dr Barrowcliffe's research project aimed at making these collections discoverable for the First Nations people connected to them.

"Everything I do is about helping Mob access their knowledge, data and cultural heritage items that are held in collecting institutions," she said.

"Every time I go into a collecting institution, I think: 'okay, this came from somewhere. Who does it come from? Where does it come from? What is the relationship here?'"

Mapping Country using metadata

The project was inspired by the work of Menaaki Whenua, who connected botanical specimens with Māori Iwi (people), and subsequently those Iwi applied their traditional knowledge and biocultural labels to specimens.

Working with research team members Dakota Feirer, Alex Ip and Ben Foley, Dr Barrowcliffe began the process of reconnecting NYBG specimens with Country.

The team first examined specimens that already contained latitude and longitude information, allowing them to map collection locations across Australia.

They then investigated specimens without geographic coordinates but with location descriptions recorded in collection notes. In many cases, these descriptions were detailed enough to calculate the original collection locations.

This process resulted in the addition of geolocation metadata for 3,280 specimens that previously had no precise location information.

The new data was then provided to the Steere Herbarium's Biodiversity Information Management team — Kim Watson, Liz Gjieli and Joel Ramirez — who incorporated the information into individual specimen records so they could



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be displayed online.

The next challenge was determining the Aboriginal and Torres Strait Islander groups connected to each location.

“Once we knew geographically where they came from, the next question was: ‘how do we figure out which Traditional Owner groups are associated with those areas?’” Barrowcliffe said.

“That becomes much more complex. We don’t have anything definitive in Australia that says this land belongs to this particular people across the whole continent.”

“Unlike the United States and Canada, where treaties established defined relationships between Indigenous nations and territories, Australia does not have a comprehensive treaty system identifying Indigenous connections to Country.”

To address this complexity, the researchers layered collection locations with multiple sources recognising Indigenous relationships to Country, including Native Lands, language group maps and Native Title information.

Using these methods, the project was able to infer relationships between 13,641 botanical specimens and Aboriginal and Torres Strait Islander groups.

Dr Barrowcliffe said depending on the source used, these connections may relate to language groups, clans, tribes or Aboriginal and Torres Strait Islander organisations.

Knowledge back to community

For Dr Barrowcliffe, the significance of the project extends beyond improving museum records.

She believes these collections may contain knowledge that could support cultural renewal, environmental management and connection to Country.

“So much of our knowledge, our culture, our heritage and our kin — our human and non-human kin — come from Country and are being held off Country,” she said.

“These materials are not only held in

collecting institutions around Australia, but across the world.”

Dr Barrowcliffe said a further important question can be asked: “What possibilities might exist when communities can discover what has been collected from their Country.”

“Is there a plant specimen sitting in New York that could help Mob revitalise ceremony, reconnect with something traditionally eaten on that Country, or understand plants used for medicine?”

“If I can help Mob find those things, and know they exist in the first place, then at least they have the ability to decide whether that knowledge is important to them and how they want to engage with it.”

The project now enables Aboriginal and Torres Strait Islander groups to search the NYBG’s C. V. Starr Virtual Herbarium using their people’s name or representative organisation as a keyword, improving access to specimens connected to their Country.

The C. V. Starr Virtual Herbarium can be accessed at:
<https://sweetgum.nybg.org/science/vh/>



Researcher Dr Rose Barrowcliffe.



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Above are examples of the plant specimens held by overseas institutions. *Pictures: supplied.*