Andrew Vowles, 3MT® Presentation

Of Beasts, Botany and Biodiversity: The Art of DNA Barcoding

Rhinos are vanishing. So are rare plants.

Some causes of biodiversity loss are natural. Others reflect human activity from climate change to habitat loss to invasive species.

To preserve biodiversity, we need experts from lots of fields working together. Biology. Environmental sciences. And the humanities, including art.

Art and biodiversity science meet in my project on DNA barcoding art.

Think of DNA barcoding as a Universal Product Code for life on Earth.

Like scanning your groceries, biologists use DNA barcoding to read a tiny bit of genetic material and identify the species.

Knowing what lives where today can help us track and anticipate changes in biodiversity from natural and human causes.

And art can play a role.

For my research, I've interviewed a photographer and a sculptor in Wales and multimedia artists in Seattle and Toronto. Their work includes motifs and ideas of DNA barcoding and biodiversity.

I'm asking a key question: What do we gain from using DNA barcoding in artworks?

Among the answers, three stand out.

First, how many of you have visited a barcoding science lab as in the middle photo here? Likely not many. You're more likely to take in a wildlife photography exhibit as shown on the right, one whose art can reach your mind and heart.

Second, art may give scientists themselves a new view and appreciation of biodiversity and might even shape their studies.

Third, I think of the Welsh artist whose plant photos like the one on the left include DNA barcoding motifs.

When she learned of a science project to barcode all of her country's plants, the artist thought: Great, yet another new way to reduce all of life to a commodity.

Then she realized it's just the opposite.

In the barcode database, the humble roadside weed rises to the same standing as the prized rose – and to the same standing as every other living thing on Earth.

That includes one species that also gets a single entry in the barcode database: Homo sapiens. The species that practices both art and science – and brings them together.

Through my project, I'm looking to learn and share how DNA barcoding art can highlight biodiversity problems from vanishing rhinos to rare plants and perhaps prompt us to solve them.

Thank you.