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Connections

1. What is Biodiversity Genomics?

The European Reference Genome Atlas (ERGA) and the European node of the International Barcode of Life (iBOL Europe), two international communities of scientists brought together under the Biodiversity Genomics Europe Project, are joining forces for a series of blog posts that explore the fascinating world of Biodiversity Genomics and the intersection of their communities.



**Biodiversity
Genomics
Europe**

BiodiversityGenomics.eu



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What is Biodiversity Genomics?

BY CHIARA BORTOLUZZI, KASIA FANTONI, CHRISTIAN DE GUTTRY AND LUISA MARINS

Biodiversity means the variety of life on Earth, from huge trees and animals to tiny bacteria and fungi. Many people think the term has been around forever, but it was first used in 1985. In 1992, the world's leaders met in Brazil at the Earth Summit, a major conference of the United Nations. There, 150 countries promised to protect and use all forms of life fairly and responsibly. This promise is called the Convention on Biological Diversity (CBD).



PHOTO BY CHRISTIAN DE GUTTRY.

from the Latin word "Diversitas,"
meaning variety or difference

/daɪˈvɜːsə.ti/ noun

Biodiversity

/baɪ.əʊ-/ prefix

Bios (βίος), from the
Greek word for *life*

Have you ever wondered what makes each living thing unique? Think of DNA as a giant book filled with instructions for every living thing. **Genomics** is the study of an organism's DNA. Sometimes, you only need to glance at a page to figure out which book you're reading. This is a bit like **DNA barcoding**, where a small piece of DNA tells us the species. But if you want to understand the whole story, you have to read every page. That's where **reference genomes** come in. They're complete versions of the DNA "book," so scientists can learn everything about how an organism grows and survives.



This includes the parts that work like chapters, telling the body what to do (genes), plus other sections that might not directly "speak" but still affect how the story unfolds. By reading these DNA "books," scientists see the big picture of how living things function and interact with their environment. This deeper look at life's instructions helps us discover new species, protect endangered ones, and learn how to care for all the fascinating creatures that share our planet.



PHOTO BY DAVID FENTON.

