

# Caucasus Barcode of Life (CaBOL)

## Assessing the Biodiversity of the Caucasus



*Bombus persicus*

Order: Hymenoptera

Family: Apidae

Species: *Bombus persicus*  
Radoszkowski, 1881

Distribution: Armenia,  
Azerbaijan, Georgia,  
Iran, Turkey

## What is CaBOL?

The Caucasus Barcode of Life initiative is an international consortium of research biologists and infrastructure whose common goal is the development of a comprehensive inventory of organisms in the Caucasus region. The Caucasus is a recognized nexus of biodiversity, containing many species unique to the region. This one-of-a-kind assemblage of organisms is under assault from habitat disruption, changing climate, and an ever-expanding human footprint on the natural landscape.

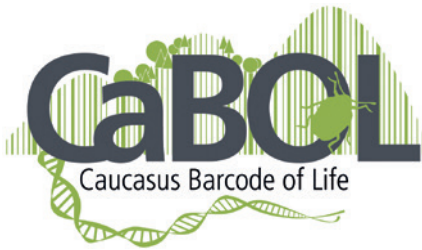
Preservation of biodiversity requires information — information about which species are present, where they are currently found, and the kinds of habitat they require for survival. CaBOL's mission is to collect this information and make it available to the public, to ensure the basis for protection and sustainable use of the Caucasus in the future.

## Who is CaBOL?

CaBOL is currently comprised of biologists based in Armenia, Georgia and Germany. Collectively, they possess expertise in taxonomy, bioinformatics, ecology, molecular biology, and conservation biology. The project is funded by the German Ministry for Education and Research, with additional support from the universities and research institutions which host CaBOL activities.

The project partners are:

- Armenia — Scientific Center of Zoology and Hydroecology of the National Academy of Sciences (Yerevan); Yerevan State University
- Georgia — Agrarian University (Tbilisi); Ilia State University (Tbilisi)
- Germany — LIB - Zoological Research Museum Alexander Koenig (Bonn); Georg-August-University of Göttingen; University of Koblenz-Landau



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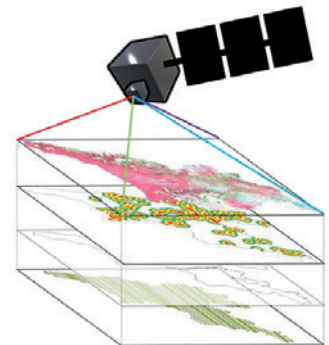


## What does CaBOL do?

CaBOL research focusses on building collections of all organisms present in the Caucasus, plant, animal, microbial, terrestrial and aquatic. This requires expertise in taxonomy — the science of identifying and describing species. In addition to building research collections, CaBOL is simultaneously preserving DNA from ALL of the species collected and obtaining DNA sequences from each species. This is part of the global Barcode of Life program, which generates unique DNA sequence identifiers for unambiguous species identification. Simultaneously with collecting and barcoding, CaBOL also has an education imperative — integrated with our research, CaBOL is also training the next generation of biologists in principles of taxonomy, and in the molecular methods needed to take taxonomy and biodiversity research into the future.

## Remote sensing technologies

One aim of CaBOL is to understand how conclusions can be drawn from the satellite image to the genetic biodiversity of the Caucasus. The figure shows remote sensing technologies with the addition of various thematic “layers” of the national surfaces of Georgia and Armenia. The four layers represent different applications of remote sensing: a) spectral values, b) biodiversity hotspot analysis and predicted biodiversity, c) vector layer, and d) genetic information layer.



Remote sensing technologie  
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## How can you participate?

CaBOL actively supports and solicits participation, by both institutions and persons with an interest in biodiversity and natural history & nature protection of the Caucasus region. We would especially welcome naturalists and biologists with expertise in taxa native to the region, and students who want to learn more about Caucasian biodiversity. If you are interested in finding out more about CaBOL, and/or how you or your organization might participate in our work, please contact your local CaBOL representative.

### Coordinator CaBOL Project

Dr. Nils Hein /  
Email: [cabol@leibniz-lib.de](mailto:cabol@leibniz-lib.de)

### Armenia

Prof. Dr. Marine Arakelyan /  
Email: [arakelyanmarine@gmail.com](mailto:arakelyanmarine@gmail.com)  
Prof. Dr. Bardukh Gabrielyan /  
Email: [gabrielb@sci.am](mailto:gabrielb@sci.am)

### Georgia

Prof. Dr. George Japoshvili /  
Email: [g.japoshvili@agrni.edu.ge](mailto:g.japoshvili@agrni.edu.ge)  
Prof. Dr. David Tarknishvili /  
Email: [david\\_tarknishvili@iliauni.edu.ge](mailto:david_tarknishvili@iliauni.edu.ge)

Instagram: [cabol\\_biodiversity\\_caucasus](https://www.instagram.com/cabol_biodiversity_caucasus)  
[www.ggbc.eu](http://www.ggbc.eu)

