



Leibniz Institute
DSMZ-German Collection
of Microorganisms
and Cell Cultures GmbH



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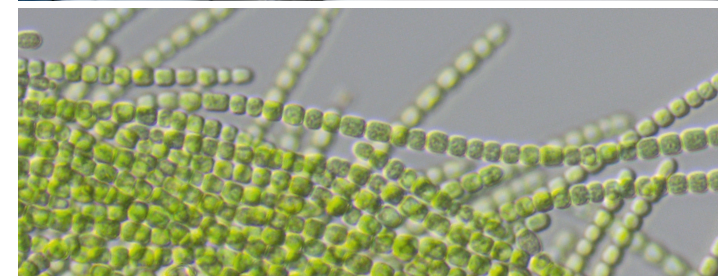


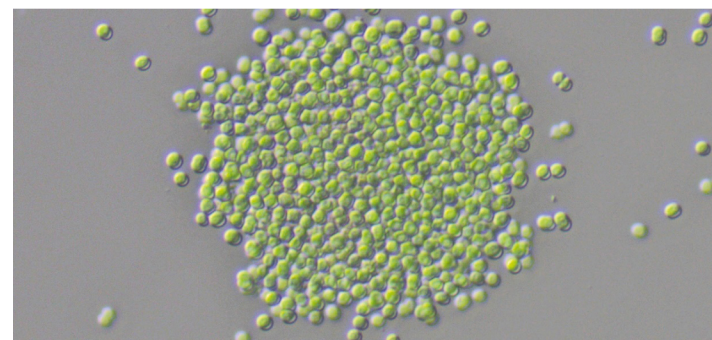
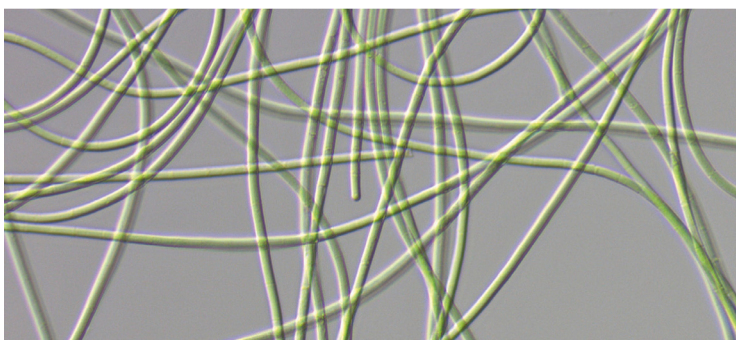
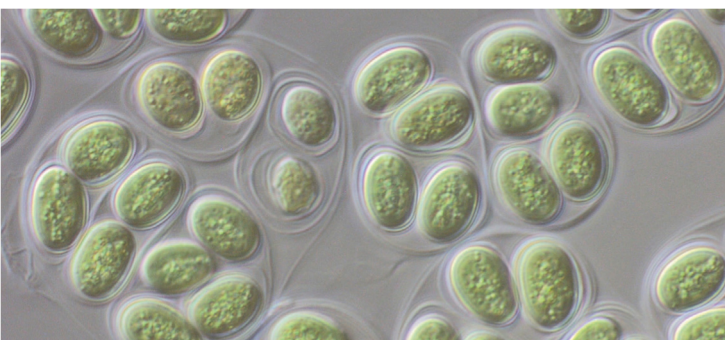
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home of more than 84,000 biological resources

CYANOBACTERIA & PROTISTS

Collection and Services





NEW ACTIVITIES

Although the DSMZ represents one of the most diverse bioresource centers in the world, until recently important resources have been missing. To complement its portfolio the DSMZ has started new activities for collection and distribution of *Cyanobacteria* and protists.

CYANOBACTERIA

Cyanobacteria comprise a large group of morphologically diverse gram-negative phototrophic bacteria. Occurring in terrestrial, freshwater and marine habitats they are of outstanding ecological importance. Traditionally used as food additives, they are also of biotechnological interest for the production of energy and bioactive compounds. Furthermore, their ability to fix nitrogen allows their use as biofertilizers.

DIATOMS

As photosynthetic active protists diatoms belong to the most important biomass producers in freshwater and mainly marine environments. Because of their strong ecological relevance they are often used as indicator organisms. Their high lipid content may be used for biofuel production and their silicate-skeleton is of interest for nanotechnology. More recently, they became amenable to genetic transformation.

PROTOZOA

A open collection and a place for deposit of protozoa is still missing in Germany. Protozoa comprise a highly diverse group of protists. Their ecological importance especially in soil is still under investigation. They may be important for soil improvement as well as for wastewater treatment. Protozoa are important symbionts and pathogens. Tetrahymena cells are used for the production of biopharmaceuticals and recombinant proteins.

DSMZ COLLECTION OF CYANOBACTERIA

The current core of the DSMZ holdings of *Cyanobacteria* comes from (i) the Yerseeke Culture Collection established by Lucas J. Stal at the Royal Netherlands Institute for Marine Research; (ii) the collection of Burkhard Büdel at University of Kaiserslautern, Germany; and (iii) the collection of Alena Lukešová from the Biology Centre CAS, Budweis, Czech Republic. The Büdel and the Lukešová collection include terrestrial *Cyanobacteria* from rocks, soil and lichens, including extreme habitats. Moreover, (iv) the University of Rostock, Germany, has deposited brackish strains from the Baltic Sea. The DSMZ collection of *Cyanobacteria* holds about 1,000 strains from diverse habitats, representing approximately 100 genera.

After an internal quality check, more than 110 strains are publicly available from the DSMZ online catalogue.

Strains not yet included in the catalogue can be provided upon request.

OUR WORK FOCUSES ON

- metagenomic characterization of non-axenic cyanobacterial cultures using the PacBio Sequel IIe technology
- cryopreservation and axenization of *Cyanobacteria*
- analysis of the cyanobacterial toxin production
- expansion of the collection towards a broad taxonomic range, high physiological diversity, coverage of a wide variety of habitats

DSMZ COLLECTION OF PROTISTS

DSMZ has started to build a collection of protists specializing in diatoms and protozoa. Presently, 77 strains of diatoms and 50 strains of protozoa are maintained.

Setup of additional cultivation technologies, cryopreservation and quality control is in progress.

WHAT DO YOU NEED?

The DSMZ collection of *Cyanobacteria*, protozoa and diatoms is still growing. Let us know what your specific needs are: Which strains are missing in our collection? Which organisms are of special interest?

DEPOSIT OF STRAINS

For *Cyanobacteria* as well as for protists the DSMZ offers:



- **Deposit in the open collection**
- **Patent deposit**
- **Safe deposit**

DSMZ guarantees high quality control for the strains in the collection and expertise in cultivation and preservation technologies.

Deposit of strains in the open collection secures the availability of strains to the research community and industry. It is free of costs.

Deposition in the new collection will be restricted to organisms up to safety level two. Protozoa can be accepted only if cultivation techniques and life cycles can be realized at the DSMZ.