



XXXVII ANNUAL MEETING OF THE EUROPEAN
CULTURE COLLECTIONS' ORGANISATION
13–15 SEPTEMBER 2018, MOSCOW, RUSSIA



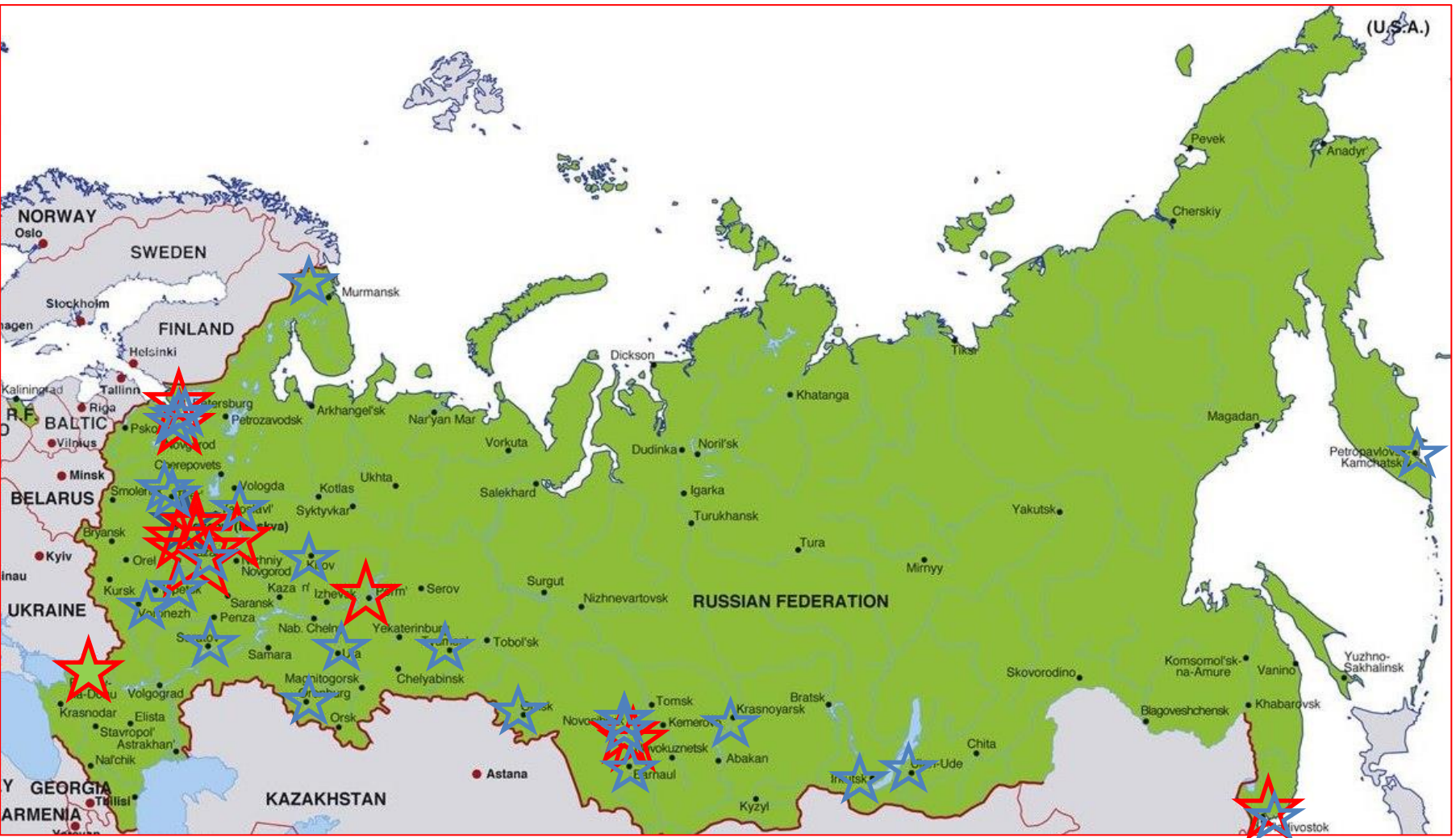
Microbial Collections in Russia: Current State and Outlooks

Nikolai Pimenov



FEDERAL RESEARCH CENTRE
«**FUNDAMENTALS OF
BIOTECHNOLOGY**»
OF THE RUSSIAN ACADEMY
OF SCIENCES

Microbial Collections in Russia: Geography



Microbial Collections in Russia: Brief Information

Number: 58 collections

Total Estimated Size: 115,000 strains

Status:

- National Centers - WFCC and ECCO members
- Regional Collections,
- Institutional Collections,
- Laboratory Collections;

Hosted in:

- Research Centers,
- Institutions,
- Universities;

National Research Center
"Kurchatov Institute"



All-Russian National Collection
of Industrial Microorganisms

Universities



Bioresource collections
National Depository Bank of Living Systems
in MSU (The "Noah's Ark" project)

The Federal Agency for Scientific Organizations (FASO
Russia), now Ministry of Science and Higher Education



Expert Board on Bioresource Collections
Portal of BRC at <http://www.bires.cytogen.ru>
launched on 2018-06-01



Collections of microorganisms
Collections of algae and fungi



Collections
of plants



Collections of
cell cultures







Collections of human
biological materials



Collections of animals

Microbial Collections in Russia: Largest & Known

- All-Russian Collection of Microorganisms (**Pushchino, Moscow region**): 
VKM (WFFC number 644)
The largest research and service collection of non-pathogenic microorganisms.
Includes ~ 20,000 strains of microorganisms (bacteria, archaea, yeasts and micro fungi), including the type and reference strains.
Objectives: supply of cultures on request; deposition of cultures (including deposition for patent purposes according to national and international regulations); contract research, identification, safe keeping of cultures; active communications with a network of several Russian non-medical culture collections.
- Russian Collection of Agricultural Microorganisms (**S.-Petersurg**): 
RCAM - the largest collection for agrobiotechnologies includes 7400 strains of microorganisms that can be used as: Biodestructors of pesticides, insecticides and other organic pollutants of soils; producers of vitamins, phytohormones, organic acids and dyes; stimulators of agricultural crops and animals growth; agents for a conservation of forage; accumulators of heavy metals for phytoremediation of contaminated soils; anti-stress agents.
- Regional Special Collection of Alkanotrophic Microorganisms (**Perm**): 
WDCM 768 smart microbes for biotechnology and environmental protection include 2303 strains of biotechnologically valuable non-pathogenic actinobacteria capable of degrading oil hydrocarbons and xenobiotics.
- Collection of Marine Microorganisms (**Vladivostok**): 
KMM (WFFC 644) - more than 5000 strains of prokaryotes and fungi from almost all regions of the World Ocean

➤ Collection of Unique and Extremophilic Microorganisms (**Moscow**):
More than 2500 strains of extremophiles and hardly cultivable microorganisms.



➤ State Collection of Microorganisms Causing Dangerous, Exotic, and Zoonanthropose Infectious Diseases of Animals (**Pokrov, Moscow region**):
2300 strains of notified, emerging and exotic pathogens of animal diseases for veterinary, prophylaxis, diagnostics.



➤ Collection of Biotechnology Relevant Microorganisms (**Novosibirsk**):
More than 2500 strains of microorganisms for biotechnology & bioengineering.



➤ Collection of Extremophilic Microorganisms and Type Cultures (**Novosibirsk**):
Include procariotic extremophiles from Syberia, Kamchatka, Yakutia as well as phages and fungi



➤ Botanical Institute Basidiomycetes Culture Collection (**S.-Petersburg**):
The largest in Russia collection of macromycetes cultures, ~ 3000 strains of basidial macromycetes from different geographical regions



Ботанический институт
им. В.Л. Комарова
Российской академии наук

➤ Collection of Microalgae and Cyanobacteria (**Moscow**):
435 strains of microalgae and cyanobacteria used in basic research and biotechnological applications



➤ State Collection of Phytopathogenic Microorganisms and Indicator Plant Cultivars (**Moscow region**):
More than 5000 units of storage of pathogenic strains, isolates of phytopathogens of the most harmful diseases relating to fungi, bacteria, viruses, viroids, phytoplasmas and nematodes affecting the main agricultural crops of Russia



➤ Magarach Collection of Microorganisms for Winemaking (**Yalta**):
One of the oldest yeast collection includes 895 yeast strains to produce famous wine



Microbial Collections in Russia: Outlooks and Perspectives

- Large Core Facilities
from geographically close collections



- Integration to one Russian Microbial Resource Center



- Unified DB on microbial strains



- Governmental Funding





Thanks for your attention!

XXXVII ANNUAL MEETING OF THE EUROPEAN
CULTURE COLLECTIONS' ORGANISATION
13–15 SEPTEMBER 2018, MOSCOW, RUSSIA