

ISOLATION OF THE LYSOGENIC ACTINOBACTERIUM FROM THE RESERVOIR OF MELTWATER OF ANCIENT ICE WEDGE FROM THE PLEISTOCENE GLACIAL COMPLEX OF MAMONTOVA GORA (YAKUTIA, RUSSIA)

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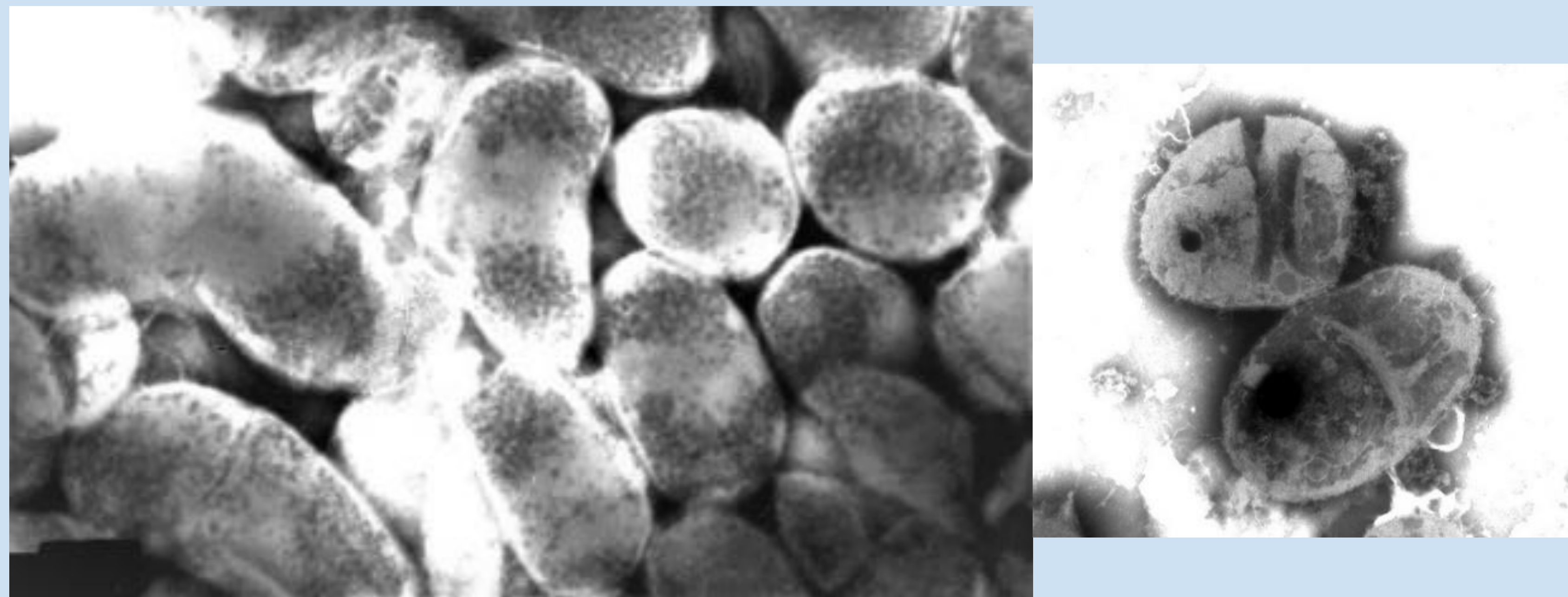
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Actinobacterium, designated K3-2, was isolated from samples of the reservoir of meltwater.

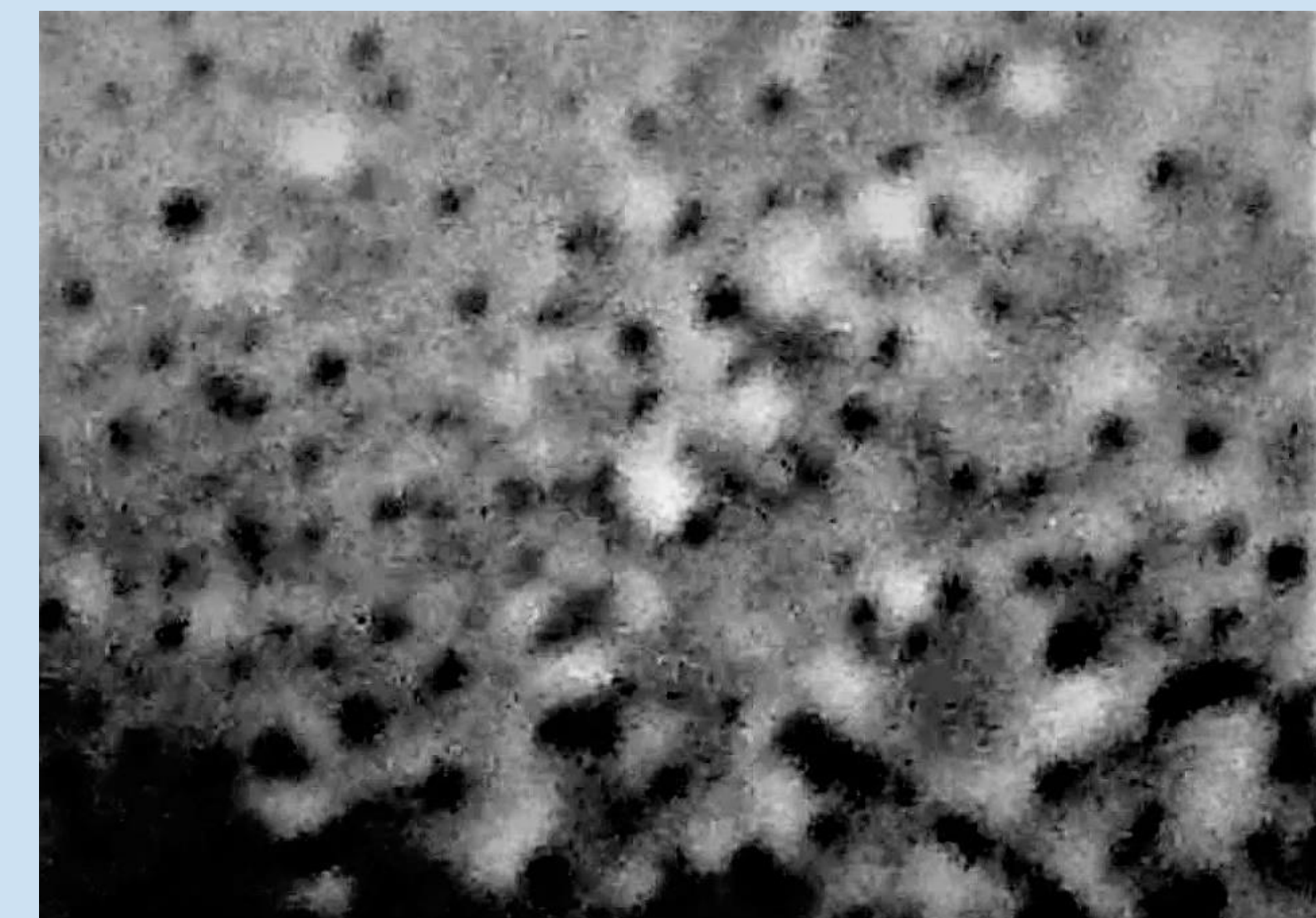


Ice wedges are in the region of Mamontova Gora on the left bank of the Aldan River (Central Yakutia). Seasonal thawing of relic ice wedge layers/

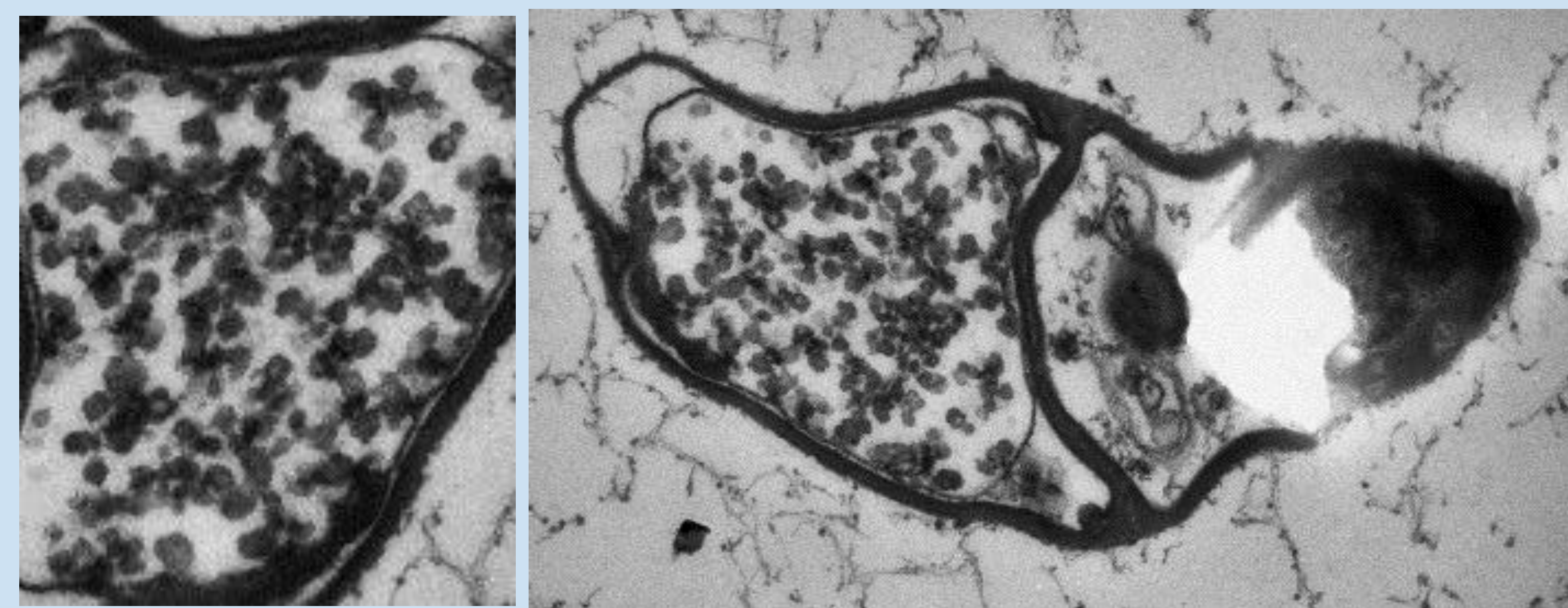


Strain K3-2 formed orange–yellow, circular and smooth colonies that were approximately 1.0 – 2,0 mm in diameter. Cells of the strain were irregular, short rod-shaped (0.3 – 0.6 × 1.0 – 3.0 μm), gramstain-positive, non-motile and non-endospore-forming

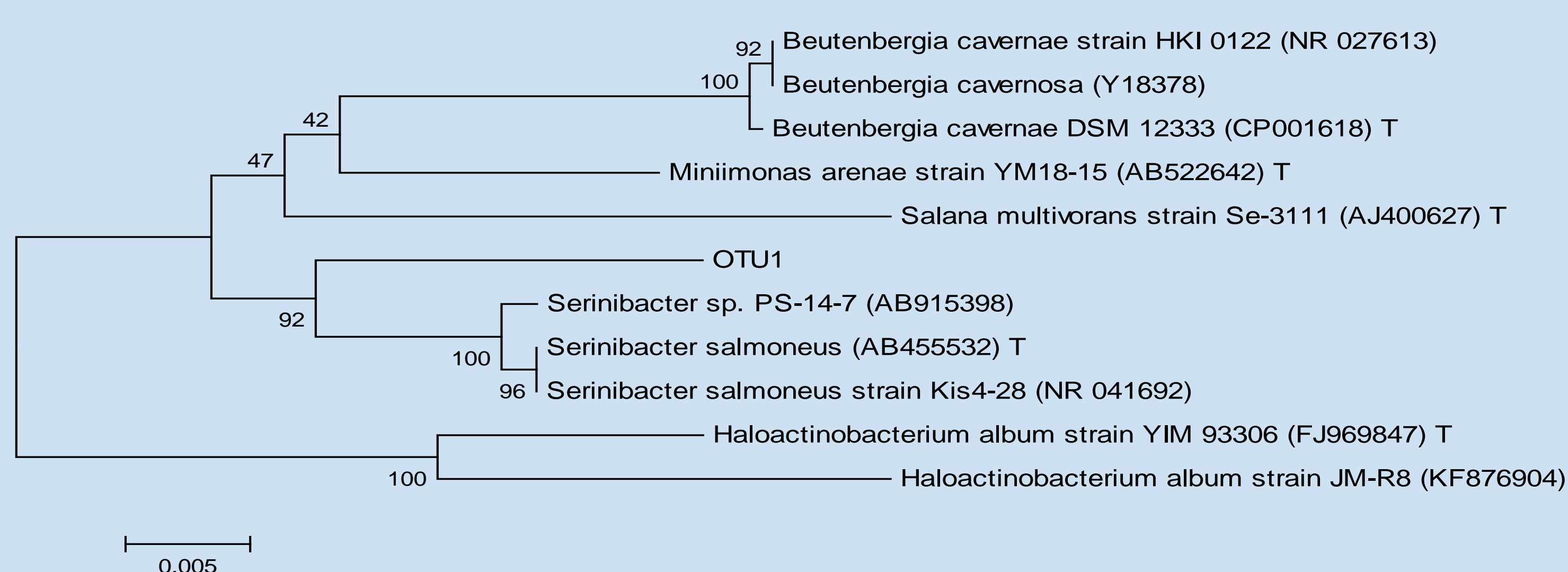
Phage plaques were detected in the zone of active growth of some bacterial colonies



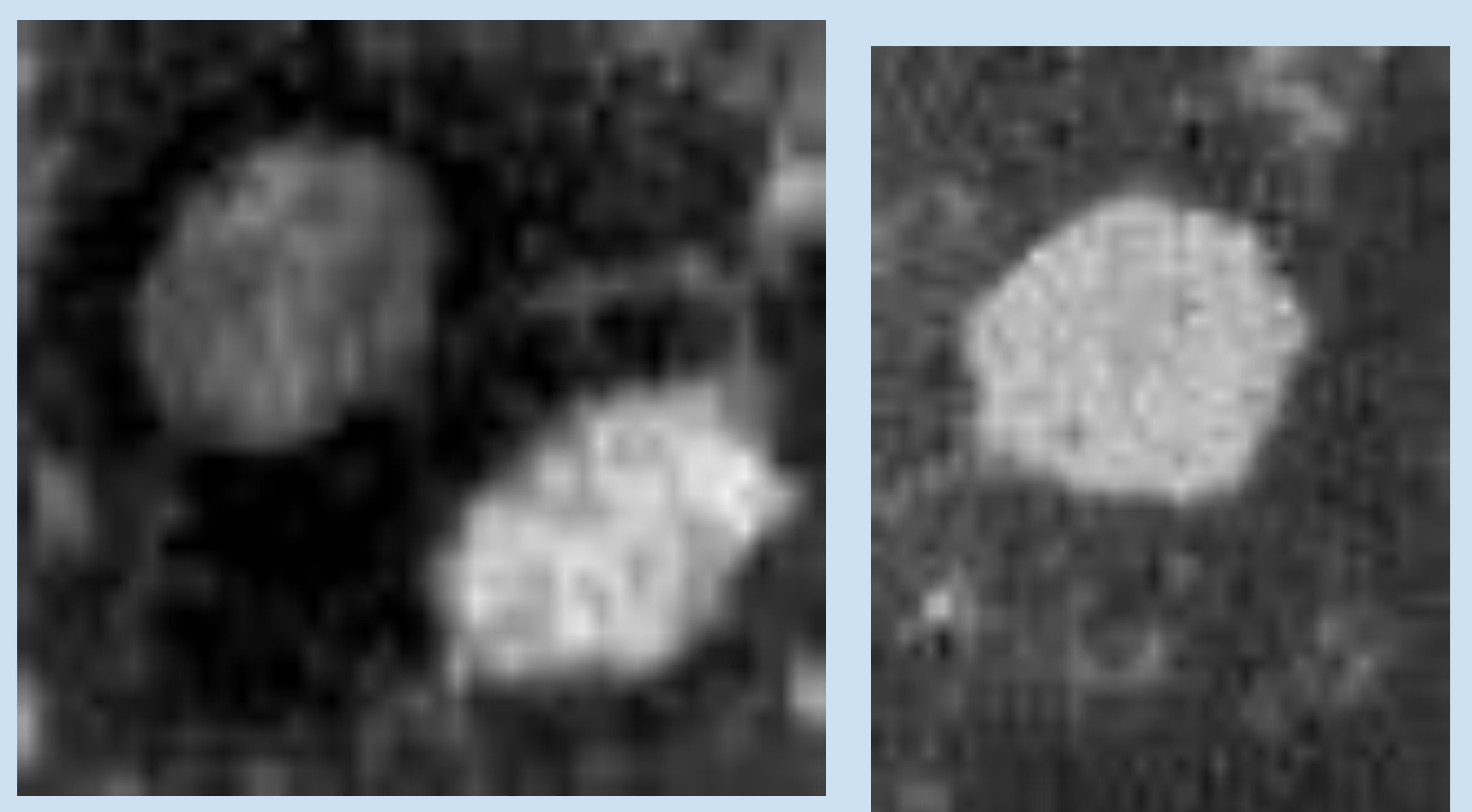
The level of homology of nucleotide sequences of 16S rRNA genes of strain K3-2 with strains of the genus *Serinibacter* is 97.2%. It gives a basis, in accordance with the recommendations of the ICSP, to propose the strain K3-2 into a new species in the genus *Serinibacter*.



Ultra-thin sections of *Serinibacter* sp. K3-2



The evolutionary history was inferred using the Neighbor-Joining method. The optimal tree with the sum of branch length = 0.14365247 is shown. The percentage of replicate trees in which the associated taxa clustered together in the bootstrap test (1000 replicates) are shown next to the branches. There were a total of 1415 positions in the final dataset. Evolutionary analyses were conducted in MEGA5



Phage particles (~ d = 50 nm) of morphologically spherical type