Figure S1. Taxonomic composition of the protist communities of the Volga River at the domain level (sampling sites 1-138; see Table S1 and Figure 1 for details) in the pico- and microfractions based on RRA (%).

Figure S2. Taxonomic composition of the protist communities of the Volga River at the class level of the TSAR domain (sampling sites 1-138; see Table S1 and Figure 1 for details) in the pico- and microfractions based on RRA (%).

Figure S3. Taxonomic composition of the protist communities of the Volga River at the class level of the Cryptista domain (sampling sites 1-138; see Table S1 and Figure 1 for details) in the pico- and microfractions based on RRA (%).

Figure S4. Taxonomic composition of the protist communities of the Volga River at the class level of the Obazoa domain (sampling sites 1-138; see Table S1 and Figure 1 for details) in the pico- and microfractions based on RRA (%).

Figure S5. Taxonomic composition of the protist communities of the Volga River at the class level of the Haptista domain (sampling sites 1-138; see Table S1 and Figure 1 for details) in the pico- and microfractions based on RRA (%).

Figure S6. Taxonomic composition of the protist communities of the Volga River at the class level of the Archaeplastida domain (sampling sites 1-138; see Table S1 and Figure 1 for details) in the pico- and microfractions based on RRA (%).

Figure S7. Taxonomic composition of the protist communities of the Volga River at the class level of the Amoebozoa domain (sampling sites 1-138; see Table S1 and Figure 1 for details) in the pico- and microfractions based on RRA (%).

Figure S8. ML phylogenetic tree of the unclassified ASVs in the Volga river. Branch nodes show standard bootstrap support values. The letters before the colon show the last assigned taxonomic rank for ASVs (k — Kingdom, d — Domain, p — Phylum, c — Class)

Figure S9. Distribution of different domains of protists in the flowing and backwater sections of the Volga River.

**Table S1.** Volga River sampling data and hydrochemical characteristics.