

EGU22-8672, updated on 12 Aug 2022

<https://doi.org/10.5194/egusphere-egu22-8672>

EGU General Assembly 2022

© Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.



Global patterns in testate amoebae diversity

Valentyna Krashevskaya¹ and the co-authors*

¹University of Göttingen, Göttingen, Germany (vkrashe@gwdg.de)

*A full list of authors appears at the end of the abstract

Testate amoebae are a common group of shelled amoeboid protists that are widespread in terrestrial systems. They play a key role in microbial foodwebs and are useful bioindicators of present and past conditions due to their long-lasting shells. However, their diversity and distribution has not yet been investigated and visualised at a global scale. With extensive data collection effort involving the global testate amoebae community, we compiled data on testate amoebae from 10,889 locations worldwide: 9235 terrestrial, 1322 freshwater and 219 marine-interstitial sites. In terrestrial systems, 1187 species were recorded. The highest total number of species was documented on the continent of Asia (699 species) and the lowest in Antarctica (151 species). Preliminary analyses of terrestrial samples showed negative correlation of species number with increasing absolute latitude, peaking at low-mid latitudes. However, longitude also played a significant role in species distribution. The most studied continent is Europe (42 % of all samples) and the least studied is Africa (2 %). The data we have collected are the basis for identifying the fundamental ecological determinants of diversity and species composition of testate amoebae and for understanding patterns in microbial diversity. We will show the recent findings of this ongoing endeavour.

co-authors: Jassey, V., Singer, D., Mulot, M., Wilkinson, D. M., Lara, E., Mitchell, E. A. D, Mazei, Yu., Tsyganov, A. N., Geisen, S., Armynot du Châtelet, E, Babeshko, K., Belyakova, O., Beyens, L., Booth, B., Brygadyrenko, V. V., Bynkov, N., Carballeira Coego, R., Charqueño, N. F., Chernyshov, V., Creevy, A., Davidova, R., Echeverría-Galindo, P. E., Mayén-Estrada, R., Fernández, L. D., Fournier, B., Gonçalves, V., González Miguéns, R., Hawthorne, D., Herlédan, M., Komlyk, V., Kosakyan, A, Kurina, I., Lamentowicz, L, Lamentowicz, M, Loisel, J., Luketa, S., Marcisz, K., Marfina, O., McKeown, M., Pérez Juárez, H., Pontevedra-Pombal, X., Porfírio-Sousa, A. L., Qin, Y., Raposeiro, P. M., Reyes Santos, M., Ribeiro, G. M., Roborek, B., Roland, Th., Shimano, S., Sigala, I, Sogame, Y, Souto-Souto, M., Swindles, G., Todorov, M, Tran, H., Valiranta, M., Wanner, M., Whittle, A., Wilmshurs, J., Zhang, H., Komarov, A., Trulova, A., Serrano Vázquez, A., Esaulov, A., Ximénez, C., Lahr, D., Malysheva, E., Pérez Allvarado, L.