The genus Thecamoeba (Amoeboza, Discosea): morphological characters appear to be congruent with the molecular phylogeny

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Amoebae of the genus *Thecamoeba* are widely distributed in the environment. These organisms are relatively easy to isolate and cultivate, also the frequency of occurrence of species is very different. There are rather common species like *Thecamoeba quadrilineata*, *T. striata*, and *T. orbis* as well as numerous species known from few findings or never re-isolated since initial description. Our studies show that "hotspot" of*Thecamoeba* diversity is terrestrial habitats – soil, grass, dry leaves and surface of trees. During our studies, we isolated about 60 strains of *Thecamoeba*, including approximately 10 unique species from different geographic points. Some were identified as known species (*Thecamoeba aesculea, T. similis,* and *T. quadrilineata*), but there are more strains, which are perhaps new for science. The main morphological differences of the strains are a locomotive form (striate or rugose) and the diverse organization of nucleolus material (from one central nucleolus to many small peripheral nucleoluses). The 18s rRNA genes analyze shows new branches inside *Thecamoeba*; which have a morphological rationale too. It appears that the molecular phylogeny of this genus is congruent with the organization of the nucleus – one of two main branches unifies species possessing a vesicular nucleus, while representatives of the second one show diverse patterns of the nucleolar material, but never – vesicular with the central nucleolus Our data further evidence that species diversity of Thecamoebida remains considerably underexplored. Supported with RSF 17-14-01391 grant.