

Improved culture method of ancestral ciliates *Loxodes* spp. isolated in Japan

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SUMMARY

Along with heterotrichs, karyorelictids are the most ancestral ciliates that diverged from the main line of most other ciliates. Karyorelictids are characterized by non-dividing macronuclei, which have likely derived from a common ancestor. Further studies of the non-dividing macronucleus are important for solving the origin and subsequent evolution of ciliates. However, no sexual process has been described fully in the literature, and analysis at the molecular level has been undertaken only rarely, probably because of the absence of a refined culturing method. Herein, we describe an improved culture method for *Loxodes* spp., which are the only karyorelictids living in fresh water, and also show phylogenetic analyses of the species isolated in Japan, based mainly on SSU rRNA.