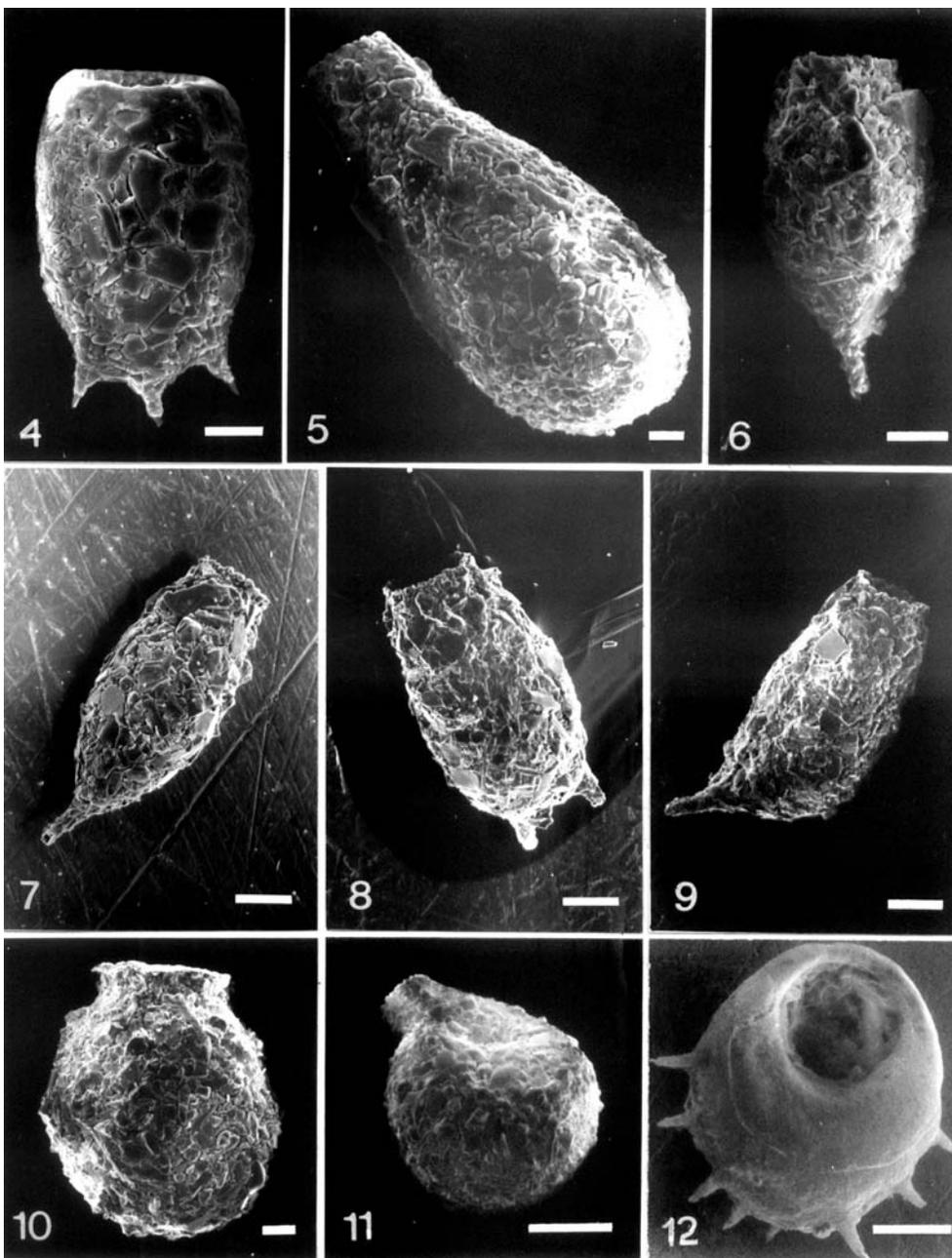


Biotopic Distribution of the Testate Amoebae (Rhizopoda: Arcellinida and Gromiida) in the Tectonic Lake Doiran (Southeast Europe)

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Abstract: The species diversity and the distribution of testate amoebae in different habitats of the tectonic lake of Doiran were investigated. A total of 45 taxa belonging to 10 genera were recorded from the littoral hydrosammal, periphytal, and benthal of the lake. The testacean taxocenoses in the lake studied are composed of aquatic or eurybiotic species, with a cosmopolitan distribution. The observed 20 species of the genus *Diffugia* constitute about 45 % of all observed testate amoebae and they are predominant in the testacean taxocenoses of the lake. The comparison between the testacean fauna of the Doiran Lake and that of the tectonic lake of Ohrid, shows that there is a significant difference between them (coefficients of faunal similarity of Jaccard are 22.7 % on species level and 45 % on generic level). This difference is due to the different morphometrical and ecological characteristics of the two lakes, and in particular of the more intensive anthropogenic press on the biocenoses in the Doiran Lake during the past two decades.

Key words: Rhizopoda, testate amoebae, biotopic distribution, Doiran Lake.



Figs 4-12. Frequent and dominant testaceans in the Doiran Lake. 4 – *Centropyxis marsupiformis*; 5 – *Diffflugia oblonga*; 6 – *Diffflugia acutissima*; 7 – *Diffflugia acuminata*; 8 – *Diffflugia bicruris*; 9 – *Diffflugia curvicaulis*; 10 – *Diffflugia urceolata*; 11 – *Lesquereusia modesta*; 12 – *Centropyxis aculeata*. Scale bars 30 μ m.

Discussion

The testacean fauna of the tectonic Doiran Lake has been almost unstudied until now and there are data about the finding of 7 testate amoebae only (GOLEMANSKY 1994, POPOVSKA-STANKOVIĆ 2001). Five of them are mentioned in the present study, too. Thus, 47 taxa testaceans altogether have been established so far from the Doiran Lake.

The results of our study show that the testacean fauna of the Doiran Lake is moderately rich and varied (45 taxa from 10 genera). The testacean taxocenoses are mainly composed of typical aquatic or eurybiotic species, with a cosmopolitan distribution. *Nadinella tenela* is the only more interesting and comparatively rare species, which was sporadically reported in the literature until now. The species of the genus *Diffflugia*, which constitute about 45 % of all observed testate amoebae, are predominant in the testacean taxocenoses of the lake.

Furthermore, some differences were found in the distribution of testate amoebae in different habitats of the Doiran Lake. The species diversity of the testaceans in the benthal and in the periphytal is twice as much than that in the littoral hydrosammal (26, 23 and 14 taxa, respectively). The greater richness of these two habitats is due mainly to the presence of more characteristic species in them. Such typical species of the periphytal are: *A. hemisphaerica*, *A. vulgaris*, *A. vulgaris* var. *multinucleata*, *C. aerophila* var. *sphagnicola*, *C. cassis*, *C. minuta*, *D. gramen*, *D. pulex*, *Ps. fulva*, and *Ps. gracilis*. Characteristic of the lake's benthal are: *C. constricta*, *C. marsupiformis*, *D. bicruris*, *D. curvicaulis*, *D. gassowskii*, *D. glans*, *D. globularis*, *D. globulosa*, *D. lacustris*, *D. oblonga*, *D. parva*, *D. rotunda*, *D. urceolata*, *P. rhumbleri*, and *Ps. fascicularis*.

The comparison between the testacean fauna of the Doiran Lake and that of the Ohrid Lake shows a great difference between them (GOLEMANSKY 1967). Significant are the exclusively low coefficients of faunal similarity of Jaccard, with a value of 22.7 % for the species and 45.0 % for the genera. From 74 taxa found in the Ohrid Lake, and 45 taxa found in the Doiran Lake only 22 were common for both lakes. The differences are clearly expressed on a generic level, too. The testacean fauna of the Ohrid Lake is two times richer than that of the Doiran Lake, and from the 19 genera found here only 9 have representatives in the second lake. The differences between the testacean faunae of the two lakes could be explained by two reasons. First, the Ohrid Lake is considerably larger and deeper than the Doiran Lake, with various habitats, and offers the testaceans more varied life conditions. Moreover, the Ohrid Lake is comparatively better studied (48 samples) than the Doiran Lake (9 samples). Second, the Doiran Lake is subjected more intensively than the Ohrid Lake to active anthropogenic pressure during the past 10-20 years (ANDREJEVIĆ 1998). An accelerated eutrophication of the lake is going on, resulting in an inevitable faunal pauperization.

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Биотопично разпространение на текамебите (Rhizopoda: Arcellinida, Gromiida) на тектонското Дојранско езеро (Югоизточна Европа)

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(Резюме)

В статията са обобщени данните от изследванията върху видовия състав и разпространението на текамебите в различни местообитания на тектонското езеро Дојран. В изследваните проби от литоралния хигропсамал, перифитала и бентала на езерото са установени общо 45 таксона от 10 рода текамеби.

Установено е, че текамебните таксоценози в изследваното езеро са съставени главно от акватични или еврибионтни видове с космополитно разпространение. Установените 20 вида от род *Diffugia* съставляват 45% от всички установени текамеби и имат доминираща роля в текамебните таксоценози на езерото

Сравнението между текамебната фауна на Дојранското езеро и тази на Охридското езеро показва, че между тях има съществена разлика (коэффициентите за фаунистично сходство на Жакард са съответно 22.7% за видовете и 45% за родовете). Тази разлика се дължи на различните морфометрични и екологични характеристики на двете езера и в частност на по-интензивното антропогенно въздействие върху биоценозите в Дојранското езеро през последните две десетилетия.