POSTER PRESENTATION

CONTINENTAL ISRAEL DIATOM ALGAE GEOGRAPHIC DISTRIBUTION

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Israel presents a unique diversity of algal environments for such a small territory. Taxonomic diversity of freshwater algae of Israel includes 1621 species of 289 genera from ten taxonomical divisions. The diatoms constitute 32.3% (523 species). A notable feature of the taxonomic structure is a large proportion of monomorphic species. The freshwater algae are collected from a wide range of altitudinal belts, from coastal plains to mountainous areas about 2000 m high and over the four phytogeographic realms recognized on the basis of the higher plant differentiation. Here we analyze statistical regularities of diatom distribution and compare them with the phytogeographic zonation based on higher plants. We recognized 42 types of geographic ranges combined in six phytogeographic domains. Four clusters of diatom taxa correspond to the coastal plains (I), the Judean and Galilean highlands (II), piedmonts (III), and the Dead Sea – Kinneret Lake Rift Valley. Cosmopolitan or widespread in the Northern hemisphere species are prevail, with a considerable participation of rare and endemic elements. Close correspondence was found in distribution of higher plants and diatoms of the Paleotropical, Sakharo-Arabian and Sudano-Zambesian provinces. The endemic diatoms, altogether 10 species (about 1% of the algoflora, which is not a negligible number for a small territory), are confined to the Rift Valley and the adjacent areas of Central Negev. They are interpreted as neoendemics mostly, reflecting the Quaternary history of the Rift Valley environments and biota. The freshwater ecosystems under such climates might have approached those of the northern Israel today. Differentiation of endemic species might have occurred under the impact of aridization through the Holocene and the recent warming.