Preface

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In many countries of the world and in Russia in particular, especially in the last decade, studies on the origin and evolution of the biosphere, particularly, those on the evolution of geobiological systems, have been rapidly developing. These studies are characterized primarily by a wide interdisciplinary nature, and employ specialists in astronomy, physics, chemistry, geology, and various fields of biology. The huge influence of the biota on all geological processes has become apparent, and we have to change our interpretation of the cause of many geological processes, including weathering, sedimentation (especially in epicontinental basins), formation of many minerals and many mineral resources, development of landscapes, regional climate, etc. Studies on the origin and evolution of the biosphere also involve the problem of the origin of life, which has always attracted many scientists.

The interdisciplinary nature of studies of evolution of geobiological systems revealed many side-issues that fall within the remits of different fields of science.

This supplementary issue of the *Paleontological Journal* collects the papers supported by the Program of

the Presidium of the Russian Academy of Sciences “Origin and Evolution of Biosphere” that were read in Loutraki (Greece). They can be subdivided into four groups: (1) Papers on the Phanerozoic history of various aspects of the evolution of the biosphere (A.G. Ponomarenko, T.B. Leonova, I.A. Gontsharova, Yu.V. Rostovtseva, O.N. Zezina); (2) papers on the Early Precambrian (M.M. Astafieva, A.Yu. Rozanov, V.A. Melezhik, P.V. Medvedev, M.M. Filippov); (3) papers on the formation of certain minerals and their effect on biopsheral and prebiotic processes, preservation of organic structures, specificity of biomarkers (G.T. Ushatinskaya, L.M. Gerasimenko, O.S. Mikhodyuk, I.V. Il’ina and coauthors, A.E. Kontorovich and coauthors); (4) Papers that cannot be assigned to any of the above topics, devoted to the history of human culture (A.P. Derevyanko and M.V. Shunkov) and the study of DNA in European populations (S. Limborska with coauthors) and a paper on entropy and major trends in the evolution of the biosphere (A. Kleidon).

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