# NATURAL WATER VIA COMPARATIVE PLANETOLOGY

KADATSKY, V. B. The Institute for the Problems of Natural Resources Use and Ecology, Minsk, Republic of Belarus

The fact of the presence much liquid water on Earth is a great geology puzzle. Numerous attempts to create a satisfactory scenario of origin and existence of the natural free water and it's absence on other planets are not accepted. The problem needs in additional research approaches. The terrestrial water consists of volatile compounds that are also the constituents of the gas atmosphere that has the biogenetic origin. Let's make an attempt to reveal similar analogies for the hydrosphere: (1) there is no free hydrosphere (as well as an oxygen atmosphere) on the other planets; (2) there is a close paragenesis between water (as well as atmospheric gases) on the one hand and living organism, on the other hand; (3) the water of the hydrosphere (like to gases of the troposphere) exists in restricted limits. It cannot be considered for the whole planet, but for the upper part of Earth's crust only; (4) there are many biogenetic reactions that demonstrate a possibility of synthesis and release of free and vaporous water (as well as atmospheric gases) into the environment; (5) most likely, the total balance of water on the planet is almost unchanged during a long period. In other words, the processes of the water decomposition and synthesis in the biosphere are in agreement.The next step to solve the problem of the water shell existence on Earth will be the determination of water (ice) isotopic composition on Mars, if any.