

Where do we go for life: Europa, Tian or Enceladus?

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Search for life on Mars has recently been modified to search for biological *relics* and/or *water and organics* on Mars. It is increasingly recognized that satellites of the gas giants, Jupiter and Saturn, may provide better grounds to support life than modern Mars may do. Among the Jovian icy moons, Europa and Ganymede are presumed to have an *interior ocean*, which is derived from the icy crust melt by tidal heating. If there are seafloor volcanoes or hydrothermal vents, life forms may be supported. Volume and duration of hydrothermal activities, however, would be major problems for possible life forms there, and supplies of oxidants such as molecular oxygen O₂ should be another problem. Nevertheless, Europa still appeals for search for life supported by tidal heating. Among the Saturnian satellites, Titan has been regarded as the prime candidate, as it has thick atmosphere comparable to the atmosphere of the Earth. Existence of gas and liquid methane CH₄ on the Titan surface may reflect possible supply (supplies) of methane from geological and/or biological activities. An *interior ocean* is also presumed for Titan, but it could be most likely an ammonia ocean. Heat source to generate and maintain such ocean in Titan is unclear. At least, it is not due to tidal heating. A watery *interior ocean* is presumed for the Saturnian icy moon Enceladus, but heat source for it is not yet understood, either. Potentials of these moons to support life are discussed from the viewpoints of comparative *satellitology*, derived from comparative *planetology*.