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The position of the hypothetical habitability zone in extrasolar planetary system is considered by many authors. Over the past 15 years more than 500 planets around other stars were found. Approximately 1/3 of exoplanets orbit their stars at very low orbits, which leads to high temperatures of their surface (if any), up to 800 K. In cases when the atmospheres of “hot Jupiters” is investigated their composition is oxygenless and very hot. For bodies of smaller masses a moderately hot atmosphere is supposed. Looking for a habitability zone in extrasolar planetary system is based on “normal”, Earth-like physical conditions of pressure, temperature, atmospheric composition etc. No direct analogues to the Earth have been found yet. Is there a possibility that the life forms can exist at quite different environment? When considering the question of habitability, the possibility of life at the high temperatures estimated for the surfaces of exoplanets close to the star may not be excluded completely. The natural laboratory for research of this kind may be the planet Venus. Venus is a hot (460°C), high surface pressure (92 bar) planet with its dense oxygenless CO_2 atmosphere.

A re-exemination of images of venusian surface obtained from the VENERA 9, 10, 13 and 14 landers (1975-82) has been undertaken with a view to detect any possible hints of life under the specific conditions on Venus.