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# Biodiversities and habitabilities : a biologist view

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## Abstract

If life were to again take the path it followed billion years ago, nobody can certify that it would take the same path, leading to the same species, the same types of cells, the same organisation. This implies that if life exists - or existed - elsewhere, benefiting from the same initial planetary conditions, it most likely does would not have the same history, or would not have followed the same itinerary. Thus, how can we possibly recognize and/or identify something new, probably completely new that we are unable to conceive and/or to conceptualize?

From a materialistic point of view, there is no frontier between what is alive and what is not; this is a basic question for the biology community, mainly via the question of viruses and viroids. It is thus very ambiguous to define the meaning of biomarkers, and even more to search for life elsewhere based strictly on the observations of what we know occurs on Earth.

Just as what is 'pathological' in biology provides us with an insight on what is 'normal', the space that lies at the border between the living and the non-living will maybe allow us to envisage other forms of life (that we cannot imagine to-day).

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