

The Position of *Homo sapiens* in the Evolutionary Tree of Life Needs Re-assessment

Michael Gurevitz

1. Department of Plant Molecular Biology and Ecology George S. Wise Faculty of Life Sciences, Tel Aviv University

Early attempts to construct a phylogenetic diagram of animals were based on Darwin's evolutionary theory, and placed *Homo sapiens* at the top of vertebrates {a branch in the animal kingdom (*Animalia*) on the basis of his developed brain, cognitive abilities and intelligence, as well as dominance on Earth. Later however, the proximity to other members of *Animalia*, reflected on resemblance of DNA sequences and functional entities (e.g., metabolic, structural), as well as common traits evolved during millions of years in response to selective pressures and survival needs, indicated that this tree of life arose 'in the eyes of the beholder' (humans), whereas an objective categorization should have considered in addition to cognitive advantages, additional parameters such as life expectancy, resistance to environmental biohazards, and sustainability, parameters that constitute the 'survival potential' of a species. Therefore, in a reality of disparagement in human life and present vulnerability of mankind to extinction (refs. 1, 2), the categorization of *Homo sapiens* at the tip of animal development should be re-evaluated.

THE RELIGIOUS VIEW

As cognition of mankind developed, reflections about the creation of the world and wonders of the surrounding nature, as well as the question of why particularly humans had been selected to dominate the planet, added to fears of the unknown and death, raised a need for some explanation. In the lack of a rational answer based on tangible facts, humans turned toward a spiritual solution, namely, a belief in a universal super-being (God), the creator of the world and all life forms (ref. 3). Evidently, feelings of inferiority in the background of the creation of the vast universe and the surrounding wonders led to establishment of religions comprising ceremonies and rituals that expressed the gratitude of humans and emphasized their dependence on God. Although the issue of God remained beyond human grasp (ref. 4), the religious conception was required to attribute everything created and all that would happen to God's will ('everything in his hands'), which succeeded to calm down doubts and concerns, but in fact formed a powerful mechanism for minorities ('sanctified mediators'; ref. 5) to control the masses. The religious belief satisfied humanity by positioning *Homo sapiens* in the center of God's creation, and contributed to the view that mankind was created on purpose to control Earth and dominate all life forms.

CATEGORIZATION CRITERIA

The *Animalia* tree of life is presently a branching diagram of evolutionary development of all creatures in the animal kingdom. As such, *Homo sapiens* is placed at the tip of the

Mammalia Class (one among several branches of the subphylum Vertebrata, a branch of the Chordata phylum), based on advanced cognitive traits, great impact on the environment, and dominance over all other animals. Still, the modern tree of life is a branching diagram of relationships rather than a pyramid of supremacy, which contradicts the religious point of origin based primarily on human cognitive abilities.

However, this diagram did not consider a few weaknesses related to the ‘survival potential’ of our species (e.g., life expectancy, sustainability). Veracity of this view may lead to the unprecedented suggestion that the rise of *Homo sapiens* was a temporary prodigy on a universal time scale, which may further suggest the possibility of its replacement in the future by another species even of another evolutionary lineage with much higher survival potential (insects for example) that would develop cognitive abilities and skills to control all other life forms over Earth (on the condition that the planet would still exist).

BOTHERING ISSUES

The fact that *Homo sapiens* has been previously positioned by scientists at the top of all animals due to his cognitive superiority (developed brain, higher intelligence, creativity, and dominance over the entire planet) does not necessarily imply that he is the top creature in the evolutionary tree of life. As proposed above, except for human cognitive superiority, evolutionary success should have considered additional issues associated with the survival potential, which does not seem highly promising for the human species. Not only that mankind is under danger of extinction as a result of global universal catastrophes beyond his control (hit by a large asteroid, burst of detrimental irradiation or a heat wave from deep space, terrestrial destruction by enormous volcanic eruptions, or even drowning in a huge flood as a result of ice melting), his recent activities raise further global risks (e.g., a nuclear world war; microbiological incurable pandemics; massive obliteration of crucial photosynthetic organisms (ref. 6); or, even miscalculated scientific experiments like clash between matter with anti-matter (ref. 7).

Since sustainability of humans is limited to a ‘narrow window’ of climate conditions on Earth’s unstable terrestrial shell, as well as on the limited abilities of their immune system to combat detrimental micro-organisms, we could have expected some international reorganization to avoid at least man-born dangers. Instead, we observe increasing risks that may lead to self-extermination (ref. 1) without sincere attempts to restrain ignorant aggressive leaders with personal or political aspirations, particularly those nearing the end of their career (ref. 8), who endanger humanity and show readiness for global destruction. As horrible as it sounds, these parameters should have been taken in account when re-evaluating the tree of life and the survival potential of all living creatures. We should remember that in addition to man-made destructive activities {e.g., depletion of world resources; contamination of the environment; obliteration of the photosynthetic basis enabling life (ref. 6)}, the growing loathing between populations headed by seemingly insane ‘shahid-like’ leaders (e.g., Muslim jihadists), or any other religious fanatics ready to use brute force and kill people with the name of God on their lips, while ignoring the putative global devastating results of their actions, are most probably and to our sorrow, initial signs of the decline of the *Homo sapiens* civilization (refs. 2, 9, 10)

REFERENCES

1. Gurevitz, M. (2021) Self-extinction on verge - an illogical reality. *Intern. J. BioMed. Res.*, 1:1, DOI:10.31579/IJBR-2021/002
2. Gurevitz, M. (2022) Has humanity reached the stationary phase of its growth curve? *Eur. J. App. Sci.*, 10(5):169-170, DOI:10.14738/aivp.105.13152
3. Gurevitz, M. (2023) The creation of God in the mind of mankind - a spiritual need or hiding in a cave. *Eur. J. Appl. Sci.*, 11(6):145-146, DOI:10.14738/aivp.116.15862
4. Gurevitz, M. and Dagan, R. (2024) The creation of the world - A galactic event beyond human grasp. *Eur. J. Appl. Sci.*, 12(4):81-84, DOI:10.14738/aivp.124.17026
5. Gurevitz, M. (2022) Religion - a sophisticated strategy to gain control over the masses. *Ann. Depress. Anxiety*, 9(1):1115-1116, DOI.Org./10.26420/anndepressanxiety
6. Gurevitz, M. (2023) Why do we owe our life to photosynthesis? *Eur. J. Appl. Sci.*, 11(6): 211-212, DOI:10.14738/aivp.116.16044
7. Gurevitz, M. (2023) The gap between public perception and scientific advancements endangers humanity. *Eur. J. Appl. Sci.*, 11(2):189-191, DOI:10.14738/aivp.112.14546
8. Gurevitz, M. (2023) Leaders nearing the end of their career may endanger humanity. *Eur. J. Appl. Sci.*, 1(5):366-368, DOI:10.14738/aivp.115.15338x.
9. Gurevitz, M. (2025) Our vulnerability to catastrophes and our evolutionary stage are inversely related. *Eur. J. Appl. Sci.*, 13(4):47-48, DOI:10.14738/aivp.1304.19027
10. Gurevitz, M. (2023) The rise and fall of Homo sapiens. *Am. J. Biomed. Sci. & Res.*, 18(1):867-868, DOI:10.34297/AJBSR.2023.18.002449