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Are we in need of dividing zoology into two fields?

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Abdelaziz Ghanemi[1,2]

[1]Key Laboratory of Animal Models and Human Disease Mechanisms, Kunming Institute of Zoology Chinese Academy of Sciences, China

[2]University of Chinese Academy of Sciences, China

Correspondence: Abdelaziz Ghanemi, Key Laboratory of Animal Models and Human Disease Mechanisms, Kunming Institute of Zoology Chinese Academy of Sciences, No.32 Jiaochang Donglu, Kunming 650223, Yunnan Province, China, Email ghanemiabdelaziz@hotmail.com

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Opinion

The study of life forms is mainly about zoology,[1] botany[2–4] and microbiology.[5,6] Zoology is the science that studies animal and describes their properties form divers viewpoints including biology, physiology and anatomy. With the development of this science and due to the need of new elements in medical and pharmaceutical researches, many institutes of zoology are mainly focusing on the use of the animals and the knowledge obtained from zoological studies to strengthen our understanding of the human biology and disease toward developing new therapies based on illustrated mechanisms.

Indeed, depending on the purpose of the investigation being conducted we may divide zoology into two fields. The first would be the one aiming to further describe the animals (including insects) properties toward a better understanding of their biology, life cycle, genetics and other concepts that would allow us to develop our ways of animal economic usages including as meat, honey and milk production, veterinary care and even the use of animals in procedures such as detection of explosives and illegal drugs in airport for examples. The second field of zoology would focus of finding out data about animals that could strengthen the knowledge we have about human diseases and physiology to better manage the human pathologies and find out more suitable therapies. For that cells culture[7] are used to test drugs, animal models are developed to mimic the human diseases and pharmacological properties of the membrane receptors,[8–10] that are the therapeutic targets of drugs, are studied in animals than the results are extrapolated to humans within the contexts of both pharmacology and toxicology.[11–14] One of the best examples in this field is the neurosciences area in which animals are extremely important and divers species are used to clarify the complexity of the nervous system[15,16] and the related diseases.[17–20]

Therefore, these proposed "division" of zoology could contribute significantly in the development of those two fields with an emergence of eventual subdivisions with corresponding experts. The first field would require collaboration between biologists, veterinarians and zoologists with eventfully other experts such as botanists where as the second field would require more medical and doctors and pharmacologists toward promoting scientific exchanges between specialists to transfer knowledge and provide new tools to other fields. Herein, we give the example of the importance of fly genes in genetic studies.

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Conflict of interest

Author declares that there is no conflict of interest.

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