

Evolution, Biodiversity and Practical Applications

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I shall first explain how evolution can be studied at many levels, from the most basic level of DNA, through genes, proteins, genomes, phenotypes and finally to morphologies. I shall then explain why comparing evolution at different levels can give much insight into the process and mechanism of evolution. I shall also explain how evolution has produced the great biodiversity we see on earth. Taking advantage of the great biodiversity and the advances in biotechnologies, we may be able to solve or at least mitigate some serious problems facing human's future. I shall give two examples. First is how biofuel research may have the potential to partially solve the energy crisis and the problem of global warming. The second example is how in the future biologists may be able to create high yield crops to increase production, which may mitigate the serious problem of food shortage as the human population explodes.