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Reading 1: How many species concepts are there?

**Article Summary**

Dr. John Wilkins poses the question, “how many species concepts are there?” and attempts to provide an answer. He begins with his personal count of 26, then adds the “polyphasic” species concept, which depends on the convergence of many lines of evidence. From the initial number of 27, the author weeds out what he considers overlapping definitions to reach a new total of 7 “independent concepts”. From here, a line is drawn between techniques for identifying a species and explanations for how species come about. This distinction brings the number of species concepts down to as little as two: *ecospecies*,which are the result of ecological niche partitioning, and *biospecies* or *reprospecies* which arise from reproductive isolation. For example, in a group which freely exchanges genetic information, the only thing keeping a species ‘in place’, so to speak, is selection pressure for its particular attributes. Thus, while lions and tigers can interbreed, ecological constraints make them separate species. In the other case, total or near-total reproductive isolation produces species that not only won’t but *can’t* interbreed.

Then, Wilkins takes a more philosophical perspective. He proposes that, while there are anywhere from two to twenty-seven explanations for *why* species exist, there has only ever been one fundamental concept of what a species *is*: the “*generative concept of species*”, the idea that a species is recognized by its power to create others like itself. The author claims that this idea of what a species is has been present in human thought since at least Roman times, and that a clear idea of species predates explanatory evidence. Finally, Wilkins evaluates the idea that there really are no species, and that they only exist “in the minds of biologists and their public”.

**Things you liked about the paper**

This article’s main strength is in its capacity to make the reader think. It’s easy to internalize the word “species” as a description of immutable taxonomic reality, which is why articles like this crop up to challenge its philosophical foundations. For a philosophical paper, this one is also adequate in providing source material as evidence. By quoting scientists and philosophers who have also struggled with this question, Wilkins frames his article as part of an ongoing debate and not as a definitive solution to the problem.

**Things you did not like about the paper**

One of the article’s strengths is also its primary weakness: on the most basic level, the article fails to answer the titular question. The content of the paper, while interesting and thought-provoking, eventually proves to be something of a merry-go-round in which readers end up right where they started: not knowing how many species concepts there are. The closest thing to a solution Wilkins provides is a list of each proposal, ending with a joke about there being *n*+1 concepts in a room of *n* biologists. Two possibilities exist: either there are a definite number of species concepts, or there aren’t. If a definite number exists, Wilkins fails to provide it, and if it doesn’t exist, why write this paper in the first place? Like many works of philosophy, this article struggles to be relevant to non-philosophical pursuits.