
The Idea of Neo-Biological Species Concept—A new approach to responding the old debates

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Abstract

In Biology, "Species" is a very fundamental and controversial idea, and philosophically, "Species" is a relatively distinct grouping of individual organisms. Both extend into our understanding of human nature. The "Species" problem arisen by the worries of the realism and pluralism (debates of Claidge and Mishler in 2010). Nevertheless, there were dozens of species concepts have been being proposed, and there are the Biological Species Concept (BSC, proposed by E. Mayr), the Hennigian Species Concept (HSC, by R. Meier and R. Willmann), the Phylogenetic Species Concepts (PSCs, by both B. D. Mishler/E. C. Theriot and Q. D. Wheeler/N. I. Platnick) and the Evolutionary Species Concept (ESC, by E. O. Wiley and R. L. Mayden) will remain being discussed mainly in this century (Wheeler and Meier, 2000). In this article, I will construct a species concept named Neo-Biological Species Concept (Neo-BSC), which is an alternative of Mayr's BSC with reproductive isolation mechanism, based on the signal-communication theory, which is a model of "individuality" demonstrated by biological relationship of the *Volvox*. I will illustrate my Neo-BSC, and try to reveal the followings: (1) How my Neo-BSC can be both theoretical and practical applications to the biological need; (2) How my Neo-BSC can be developed from Mayr's BSC, and responds the critiques of HSC, PSCs and ECS; and (3) The Neo-BSC can be constructed and treated as the definition of the "individual" deduced by the signal-communication theory.

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