Taxa aren't kinds, nor are they individuals:
Lessons from phylogenetic practice for the metaphysics of biological classification

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Systematic biology is the field of biology in which organismal diversity is classified and systematized. Among the principal aims of systematic biology are the grouping of organisms into basic units of biodiversity and the clustering of such units into larger groups within a tree-like system that highlights evolutionary relationships between the groups in the system. While the foundation of both classification and systematization is common descent (which Darwin in the *Origin of Species* proposed as the "hidden bond which naturalists have been unconsciously seeking"), commonality of descent cannot be observed but only inferred on the basis of morphological, behavioral and molecular organismal traits that constitute reliable traces from past evolutionary events (see for instance Sober's classic treatment of this matter in *Reconstructing the Past*). This leads to problems of phylogenetic inference, i.e., questions regarding how to find the correct units of biodiversity, and how to select the correct phylogenetic tree(s) on the basis of a particular data set that represents the traits of the organisms under consideration (and what 'correct' means in this context in the first place). In their investigative practices systematists deal with these problems by invoking a number of assumptions and methodological decisions on, among other things, the individuation, selection and coding of organismal traits for the data set that will be analyzed, and the selection of the preferred phylogenetic tree from the set of trees produced in a phylogenetic analysis. In this talk I want to explore the consequences of such practice-based assumptions and decisions for the nature of the products of systematic biology – taxa and trees. In particular, will try to show that taxa cannot be conceived of metaphysically as natural kinds (and trees as systems of kinds), but that conceiving them as individuals (with trees as larger individuals of which taxa are parts) is not a feasible option either. Rather, a practice-based metaphysics of systematic biology leads to a view of taxa and trees as constraints on grouping: they provide a necessary backbone for the whole of biological research by constraining the possibilities researchers have for grouping the objects they study (i.e., organisms, their parts, and their traits) into units that can be investigated and about which generalized knowledge statements can be formulated.