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# The Existence of Genera

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Some taxonomists believe that genera do not exist in nature at all, and that they are arbitrary categories by which we order nature for our convenience. But many other taxonomists believe that genera are real entities which exist in nature independently of human minds. This paper addresses the question in what sense genera can be said to exist.

I will start by pointing out a distinction between two senses in which genera can be thought to 'exist':

- a) In the first sense, the existence of genera is claimed in virtue of their being objectively recognizable in nature: they can be recognized from patterns of morphological similarity.
- b) In the second sense, a genus can be said to exist in virtue of its being a historical entity, one possessing cohesion in time assured by the relationships among its members. By analogy, individual organisms exist in this sense by virtue of the historical cohesion of their constituent cells.

Species are frequently grouped together into genera on the basis of correlated characters: the fact that these characters are intersubjectively recognizable is taken as evidence that the genera are objective and therefore truly exist. But groups of organisms may show an objectively recognizable morphological pattern without being a historically cohesive entity with a beginning, temporal continuity and a possible end in time. My paper will give some examples of this, drawn from mycology.

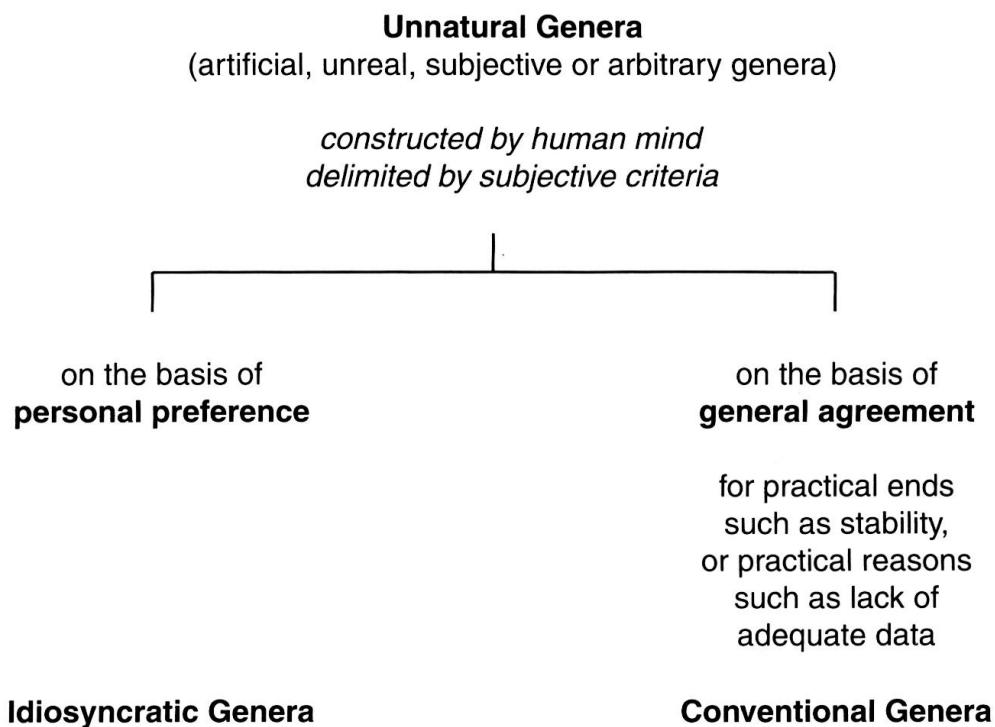
I will recommend associating the intuitive notion of existence with historical entities which possess cohesion in time. My justification is that, even if a number of entities share some properties, the grouping of those entities is not necessarily itself an existing entity. For instance, it is not the case that all atoms of gold, which share their atomic properties, form a cohesive entity.

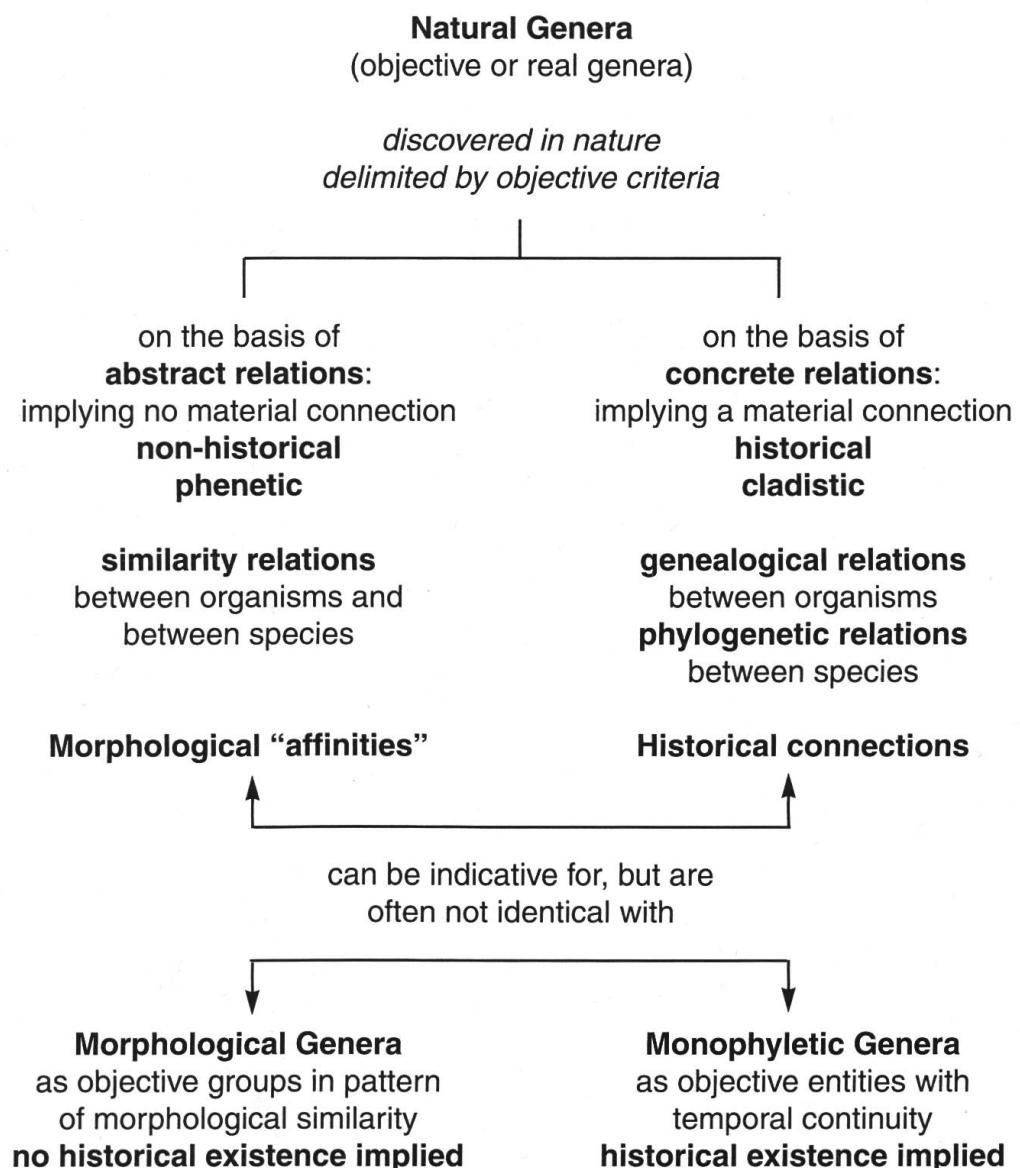
I suggest that taxonomists are often initially led to attribute objectivity to genera in virtue of intersubjective recognizability, but move imperceptibly to giving them also the existence of historical entities. Anyone who does want to

attribute to genera existence in this stronger sense must identify genera as historical groups.

The historical entity which today constitutes the most promising candidate for that identification is the monophyletic group. If genera are interpreted as monophyletic groups, they can be attributed existence in the stronger sense, as historical entities. Of course, for recognition of monophyly of a genus we will need to rely on morphological similarity. But only those character-states should be given taxonomic weight which indicate the phylogenetic history and with it the unity of a particular genus as a monophyletic group.

If this is true, it implies that genera have no exceptional ontological status among higher categories: all supra-specific categories exist in the same way in which monophyletic groups all exist.





**Fundamental Problem:**  
Presupposes hierarchical pattern with gaps,  
but in reality pattern is often reticulate

**Practical Problem:**  
Direct knowledge of historical relations is  
scarce: needs similarity as diagnostic tool