

Table 5.1 Categories of characters used for identification

Category	Examples
Cultural	Colonial morphology and reactions on differential media
Morphological	Cell shape, Gram reaction, motility
Physiological	Oxidation/fermentation test, growth at 37°C
Biochemical	Acid from carbohydrates, decarboxylase tests; miniaturized rapid test kits with automatic reading and interpretation
Nutritional	Sole carbon and energy sources; miniaturized rapid test kits with automatic reading and interpretation
Chemotaxonomic	Electrophoresis of radiolabelled proteins with automatic scanning and interpretation, automatic analysis and interpretation of whole-organism fatty acids
Serological	Coagglutination, immunofluorescence, enzyme-linked immunosorbent assays
Inhibitory tests	Growth on selective media, inhibition by antibiotic disks
Genotypic	Nucleic acid probes

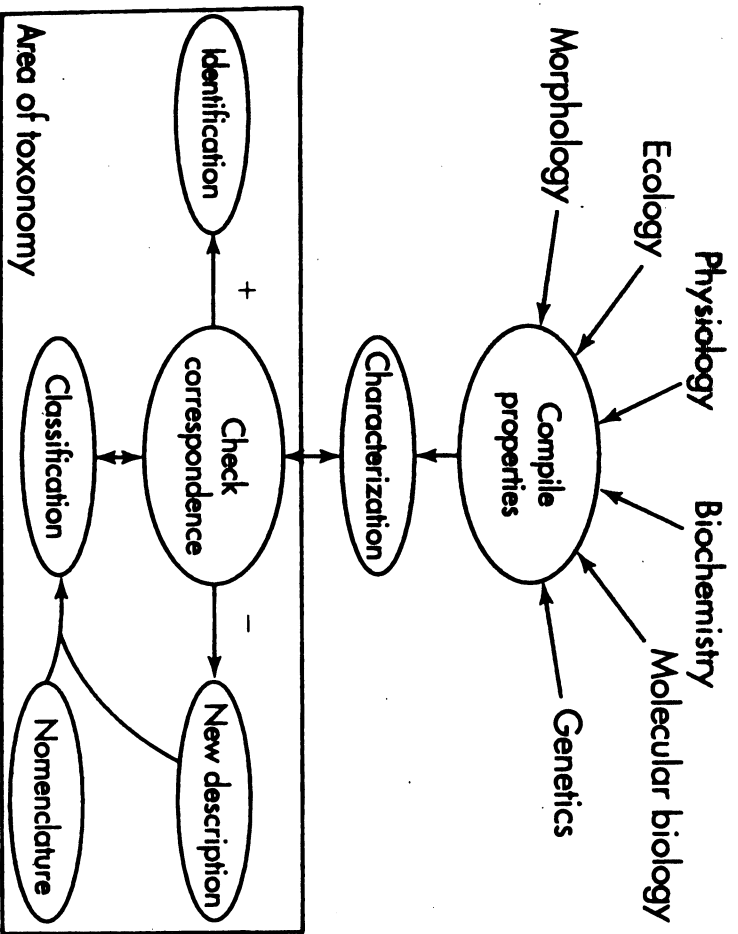


Fig. 16-5 Classification. Classification is an aspect of taxonomy that describes new organisms and places them in an ordered system. It involves sufficient characterization of organisms to determine the identity or novelty of organisms. Classification is linked to identification and nomenclature, which are other aspects of taxonomy.

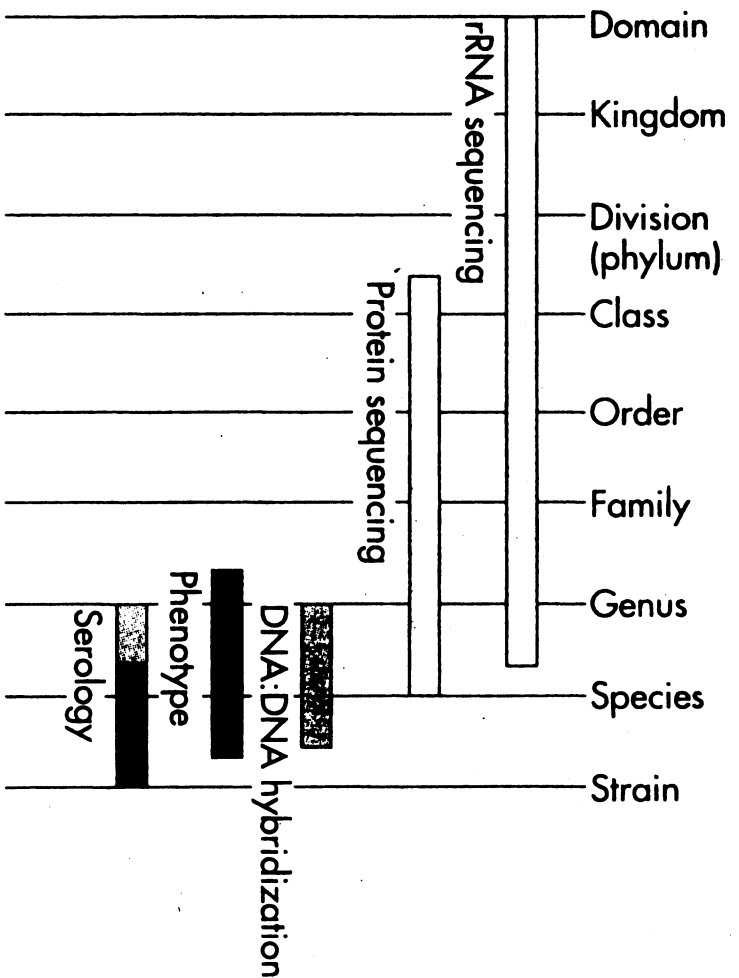


Fig. 16-10 Measures Used for Classification. Various molecular and phenotypic methods are used in polyphasic systems for the classification of microorganisms. rRNA analyses, particularly sequencing of 16S rRNA molecules, provides good information at the level of genus and higher but is not adequate for classification at the species level. Phenotypic analyses are used with rRNA analyses for classification of species.