Book of abstracts

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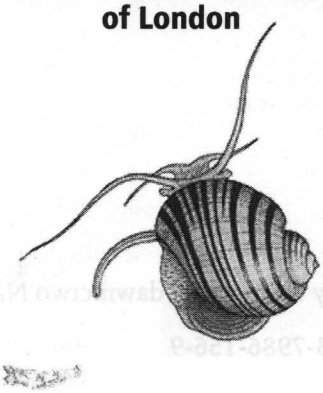

The species concept for freshwater Mollusca: from Bourguignat to the present day

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The history of development of the species concept(s) in 'freshwater' malacology is reviewed. The first attempts to determine what species of freshwater Mollusca is may be dated to the second half of the 19th century (W. Kobelt, C.A. Westerlund, A. Locard, C.T. Simpson). The French malacologist J.-R. Bourguignat was, probably, the most peculiar of these authors. He affirmed that a new species may be surely established if an animal is found to differ from all others by at least three conchological characters. Such a method led Bourguignat and his associates (a network of researchers known as the 'Nouvelle École') to discriminate a mammoth number of nominal species on the basis of extremely slight differences, usually in shell shape and proportions. Most contemporaries of the Nouvelle École strongly criticized such practice as leading to the taxonomical and nomenclatorial overload and did not accept the overwhelming majority of these 'new species'. An over-conservative approach to freshwater mollusk species discrimination arosen in the first half of the 20th century, perhaps as a reaction against this over-splitting movement. The extensive usage of anatomical data in taxonomy, especially for systematization of aquatic pulmomate snails, seemed to serve as a remedy against the extremities of the Nouvelle École. In the middle of the 20th century most researchers followed a conservative approach and tend to accept "a characteristically small number of species, almost world-wide in distribution, but with a high degree of infraspecific interpopulation variation" (Russell-Hunter, 1964). The anatomical and genetic (chiefly obtained by means of disc electrophoresis) data became the standard tool for species delineation in the 1950–1990s, though more bizarre methods (such as Starobogatov's comparatorial method) were also in use. The present situation in the field may be characterized by several statements. 1. No universally accepted species concept in taxonomy of freshwater Mollusca exists; 2. The molecular techniques and statistically based methods of species delimitation dominate, though the so called 'integrative taxonomic approach' is often viewed as the most proper one; 3. The molecular taxonomy often operates with intraspecific parataxonomic entities such as MOTUs, phylogroups and similar. Their significance for taxonomy needs to be clarified.