

## FOREWORD

Myoxids certainly represent a small homogeneous phyletic line that can perfectly be used as a model to confront the methodologic problems in evolutionary systematics. The Plio-Pleistocene palaeontological history of this group is in fact well-known, whereas their teeth are frequently found within the bone beds; moreover, the genetic analysis of the populations and species of the family has recently led to very interesting data on the mechanisms of genetic differentiation and the molecular dating of differentiation between clades. All this meant, to the researcher in charge to present the results of the second International Conference on Dormice, that he could draw definitive conclusions.

Unfortunately it has not been this way. We are still far from reaching a unitary picture that brings to an agreement between "*Tempo and Mode*" of the family evolution deduced from the palaeontological and dental morphology data, and the one deduced from the genetic and molecular evidences. We can be comforted by the fact that this disagreement does not concern only myoxids, but unfortunately is an uncomfortable constant of a great number of cases, often the more studied, of evolutionary biology. On one side someone asserts that paleontologists cannot construct a convincing phylogenesis only on the basis of the dental morphology, even if they cannot do better, the outcrops providing this kind of material. On the other hand, others refute doubting to concede complete credibility to the information deduced from about forty loci, on which are constructed phenograms on the basis of UPGMA analysis and calculated the time of genetic divergence. The genetic information involved in the expression of the dental morphology is certainly regulated by a larger number of loci indeed!

The terms of the question are certainly more complicated and serious than I have here above enounced using terms that could be defined almost "burlesque". The point consists in understanding the limits of each approach to the problem. Morphological characters - especially the adaptive characters like the dental ones - strictly undergo natural selection and are limited by numerous evolutionary and developmental constrains. Therefore homeomorphic characters can be erroneously considered as patristic characters, plesiomorphic or apomorphic, thus invalidating phyletic reconstructions. Biochemical, cytogenetic and molecular characters seem to be instead neutral, therefore they are more useful to establish patristic relationships between clades. But are we sure about the neutrality of the chromosomal rearrangement or of the allelic variant of an enzyme?

This symposium did not allow us to draw definitive conclusions, however it enabled us to confront our opinions on these subjects. From the days of the Aristotelic logic to the days of the Hegelian idealism, dialectics has always been considered to be an instrument of knowledge, especially if it opposes contrasting thesis. In fact, dialectics has existed in this meeting, and between the referees of

these proceedings: opposite ideas have faced each other in certain contributions to this volume. We can therefore affirm that this book can be considered as an instrument of progress in scientific knowledge.

The part regarding Systematics and Evolution is the greatest, and together with the one regarding Morphology and Physiology, both considered in an adaptive and evolutionary key, occupies half of this volume. However not only Evolution exists! Professor Leo Pardi, an Italian ethologist, asserted that for many years, probably too many, zoologists, studying the various animal groups, only answered the question: "Who are they?", "**How** are they made?", considering secondary the other series of questions relative to animal's life, that is "Where do they live?", "**How do** they behave?". Nowadays it is not more this way. The acute crisis of man-environment relations that is upsetting the end of this millennium, and that is expected to become dramatic for the beginning of the next one, has reversed the situation. Researchers, facing the analysis of a given group of animals became extremely attentive to the problems concerning the part that these animals play within the ecosystems and to the problems concerning their conservation and management.

The second part of this book is dedicated to this aspect of the biology of Myoxids. Some contributions confront general problems of basic Ethology and Ecology, others constitute an up-to date review on the distribution and conservation status of myoxids in various European regions, from the Baltic States to Sicily.

Now it is sure. The amusing sleepy-head of our woods can no more be called *Glis glis*; and his relatives can no more be called Gliridae: rules of nomenclature priority impose the names *Myoxus glis* and Myoxidae. Certainly for who calls the funny animal Dormouse, Siebenschlafer, or Loir and Liron, this change is not important. But for Italians, that presume to speak still Latin calling the animal in a Latin way "Ghiro" (Gliro in the archaic form) the psychological shock has been upsetting. We could paraphrase Blaise Pascal and say that "*La nomenclature zoologique a des raisons que la Raison ne comprend pas*".

Ernesto CAPANNA