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# The International Commission on Zoological Nomenclature Its role in the modern world

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## Introduction

The Commission's aim is to promote a stable and uniform Nomenclature in Zoology. It works towards this in two ways: first, it develops and improves the International Code of Zoological Nomenclature to provide a set of rules and recommendations for the guidance of zoologists; secondly, it gives rulings on individual nomenclatural problems submitted to it.

The Commission consists of a minimum of 18 (at present, 26) eminent zoologists from a variable number of countries (at present, 18). The number of

its members must be kept relatively small if the Commission is to work efficiently. Efforts are being made to develop relations with zoologists in China, India and Africa.

The Commission's Secretariat is housed in the British Museum (Natural History), by kind permission of the Trustees. Here it has access to the finest library of its kind in the world, as well as to taxonomic advice from the scientific staff of the Museum. These advantages are of great value.

## The Commission's work

It may be helpful to explain the background to the Commission's work. Zoologists (including palaeontologists) recognize about a million species of animals, and are describing new ones at the rate of about 15,000 a year, with about 2,000 new genera. Given numbers of such magnitude, it is inevitable that problems should arise. The commonest problems are of three kinds:

- (a) where a - species or genus has been given two or more names independently (some species have been given as many as ten different names);
- (b) where a - generic or specific name has been used to denote different genera or species;
- (c) where a - name has been wrongly used in a sense different from that intended by its author.

Problems under (a) and (b) can, in principle, be easily solved by applying a simple Law of Priority: the oldest name given to a species or genus is the only one to be used; and a name must only be used for the genus or species to which it was first given. This simple rule works well enough for species and genera that are known only to a few academic specialists; but when animals of economic importance are involved (see the following section of this paper), matters become less simple. The names in general use may be heavy with meaning to many workers to whom taxonomic procedures and the

rules of nomenclature are mysterious and remote. To change such names for merely legalistic reasons could cause widespread confusion, if the Commission had not powers to prevent such changes. Problems under (c) may be complex and entail difficult choices: is the original author's intention to be upheld, or should the name be used in its accustomed way? If the latter, how is the new meaning of the name to be fixed unmistakably for the future? Where any of these sorts of problems arise there must be an international system of regulation and a machinery for working it that applies without discrimination to zoologists and palaeontologists in all countries and all disciplines.

The Commission accordingly examines problems submitted to it. When a case has been thoroughly prepared and agreed with the applicant, it is published in the *Bulletin of Zoological Nomenclature* and any comments by zoologists that affect the issue are also published there. In due course the Commission votes by postal ballot and the result, embodying the ruling of the Commission, is published in the *Bulletin* as an Opinion.

The Commission has issued over 1,150 rulings giving rulings on some 10,000 names. The demand for its services increases, and the Secretariat holds files on problems of great complexity.

## Relevance to human needs

Man and the rest of the Animal Kingdom interact in a number of ways. The plants and animals that are useful to us as food or as raw materials themselves depend on other species for their survival, as food or as commensals or in other ways

(as with insect-pollinated plants). They are attacked by other species as predators, or pests, or vectors of disease. In exploiting the resources of the earth's crust, especially groundwater and fossil fuels, fossils are an indispensable research tool. Communication

between scientists working in these fields depends in large measure on a common system of nomenclature that all can understand.

The Commission cannot control the ways in which scientific names are used. That is a matter of correct taxonomic practice, which is itself a product of training, experience and judgement. The misuse of a name, however, can have very serious consequences. It can vitiate effective communication and may result in inappropriate steps being taken, for instance in pest control, with consequent waste of financial and human resources and increased pollution of the environment. The Commission has given rulings in many cases in which there has

been serious confusion over the use of names, or disagreement among zoologists as to the correct names to be used. Examples include the three main species of human malarial parasites and the generic name of their mosquito vector; the names of such notorious pests of cereals as the cereal-root eelworm, the grain weevil and the corn root weevil; the sugar-cane borer moth; the bee chiefly responsible for pollinating alfalfa (lucerne), which is the world's most important fodder crop; the tick vector of Rocky Mountain Spotted Fever and many other diseases; and a major cutworm pest of cotton, maize and legumes in Africa, Asia and Australia. Many other cases of similar importance are awaiting decision or presentation.

## Value in international communication

The future of the human race — and in particular the problems of north-south communication and the progress of the developing countries — must depend in part on mutual understanding within agreed frameworks of communication. The development of the countries of the Third World must in turn depend on their making the best use of their renewable and non-renewable natural resources. For this it is apparent that they need access to the expertise and accumulated knowledge of the developed countries.

The few examples cited in this paper give an

indication of the essential part played by the Commission in the provision of the general framework in which such communications and transfers of knowledge can take place.

The Commission is especially grateful for the generous financial help given by the Union in consequence of a decision by the 1979 (Helsinki) General Assembly. However, this (together with a grant from the U.K. Government) ensures stability only until the end of 1982. The Commission looks forward to working with the Union in building a realistic financial basis for the long-term future.

## Appendix

The system of scientific nomenclature used in zoology today was founded in 1758, with the publication of the 10th edition of Linnaeus's *Systema naturae*. There was then no set code of rules; the principles that Linnaeus had earlier laid down for botanical nomenclature provided an informal framework that sufficed for the small numbers of zoologists working on the comparatively small number of species known in those days.

Within less than a century, however, some 400,000 names had been given to genera and species of animals. Much confusion arose because many species had been given several different names, while identical names had been used for different species. The number of investigators and the output of their publications had also greatly increased. The need for some system of regulation was admitted. The first attempt to meet it was made by the British Association for the Advancement of Science in 1842, and their code was succeeded by a number of others produced either by national zoological societies or by workers in particular animal groups.

The existence of these codes, each differing in some respects from the others, and none having a claim to overall authority, was one of the main motives for the establishment of the International Congress of Zoology in 1889. The International Commission on Zoological Nomenclature was set up for the express purpose of producing a single international code, applicable over the whole field of

zoology and palaeontology. The first *Règles internationales de nomenclature zoologique* were published in 1905.

The publication of the *Règles*, however, proved but a first step towards a satisfactory system. The rigid application of its basic principle, the Law of Priority, caused much ill feeling because it led to many long-familiar names being rejected in favour of overlooked names that had been published earlier. In 1913, therefore, the Commission was given plenary powers to suspend the rules when it was satisfied that their strict application would produce more confusion than uniformity.

The Commission continued to be an instrument of the Congress until 1972, when that organization, at its final session in Monaco, invited IUBS to accept the continuing sponsorship of the Commission. While informal relations between the Commission and the Union had existed previously, these were formalized at the 1973 (Ustaoset) General Assembly with the setting-up of the Section of Zoological Nomenclature of the Division of Zoology. It is a pleasure to record the friendly atmosphere that has grown up between the two organizations.

The *Règles*, thus modified, survived with little change until 1948. Since then they have been under nearly continuous reform. In 1961 they were succeeded by the present International Code of Zoological Nomenclature, of which the third edition is to appear in 1981.