

Comments and Communications

Important Advances in Zoological Nomenclature Achieved at 13th International Congress of Zoology

During the 13th International Congress of Zoology, which closed at Paris on Tuesday, July 27, the International Commission on Zoological Nomenclature, holding its first meeting since the close of the war, put forward a comprehensive program for the reform and development of zoological nomenclature. All 13 of the Commission's meetings were open to all the members of the Congress, who were thus enabled to take an active part in the discussion of the proposals put forward. As a result, it was possible not only to obtain decisions on a much larger number of questions than would otherwise have been practicable but also to ascertain much more readily the needs and general wishes of zoologists. The scheme finally adopted was approved unanimously by the Section on Nomenclature and, on the recommendation of the Section, by the Congress itself at its final plenary session.

Prior to the opening of the Paris meeting, extensive discussions had been undertaken by the Commission with leading scientific institutions and individual specialists in different parts of the world, with the double purpose of drawing up a scheme which would ensure for the Commission the highest possible representative and international character and assure that at the Paris meeting all practical measures would be taken to improve and develop the *Règles Internationales de la Nomenclature Zoologique*.

Measures taken to secure a fully representative and international character for the Commission. Hitherto the International Commission has had a fixed membership of 18 Commissioners, but in the future there will be no fixed upper limit to its membership, though the number of 18 will be retained as the minimum membership. Under the new system it will be possible, therefore, for the zoologists of any country in which any considerable body of zoological work is being carried out to have a direct representation on the Commission. The change now made will make it possible also for the Commission to call to its membership leading specialists in particular fields, irrespective of country. Machinery is at the same time provided for consultation with the leading scientific institutions in any country in regard to the selection of its representative on the Commission.

Measures taken to reform the procedure of the Commission. The extensive series of changes in the procedure of the Commission are designed to secure that in the future the Commission shall be able to reach decisions much more rapidly than has been possible in the past. The most important single reform is the abandonment of the *Liberum Veto*, under which either during a meeting

or when business is conducted by correspondence a single member of the Commission could prevent any decision being taken by the Commission either in the formulation of recommendations for the improvement of the *Règles* or in the use of the plenary powers given to the Commission to conserve zoological names which are in common use but are technically defective. Other reforms agreed upon are designed to eliminate all unnecessary delay in the consideration of nomenclatorial problems submitted to the Commission by specialists. It is hoped that under this revised procedure it will normally be possible for the Commission to promulgate its decision on any question put to it within 18 months of the date of the application.

Reform and development of the Règles. At the opening of the Paris meeting the *Règles* in force were substantially the same as those adopted at the Congress of Zoology held at Berlin in 1901. The object of the reforms now agreed upon is to clarify the text of the *Règles*, which experience has shown to be in many cases obscure, to make the *Règles* more comprehensive by introducing provisions on questions not hitherto included in that instrument, and, where necessary, to introduce changes into the *Règles* in order to bring their provisions into harmony with the general wish. By these means it is hoped to retain everything that experience has shown to be valuable in the *Règles*, to eliminate all those passages which have been found to be unsatisfactory, and to meet the needs of zoologists by the introduction of provisions on matters which have hitherto not been subject to international regulation.

Codification of the international law on zoological nomenclature. A large part of existing international law on zoological nomenclature is to be found not in the *Règles* themselves but in "Opinions" rendered by the International Commission acting in the judicial capacity entrusted to it by the International Zoological Congress at Boston in 1907. The complex body of case law which has thus grown up over the last 40 years has made the task of zoologists extremely difficult. A wide welcome will therefore be given to the decision now taken in Paris to codify the law by incorporating in the *Règles* themselves the decisions hitherto embodied only in the "Opinions" of the Commission. Another reform of great practical value is afforded by the decision to record in special Schedules attached to the *Règles* the decisions taken by the Commission in particular cases. With regard to decisions to be taken by the Commission in the future, these will be of either of two kinds: (1) decisions on matters of principle, which will be issued as *Declarations* and take the form of proposed amendments to be incorporated in the *Règles* after approval by the next Congress, and (2) decisions on individual cases, which will be issued as *Opinions* and which, after the next Congress, will be inserted in the appropriate schedule to the *Règles*. Thus, the Commission intends to ensure that in the future a zoologist will be able to find the whole body of international law in regard to zoological nomenclature within the covers of a single volume.

Preparation and promulgation of the revised substantive French text of the Règles. Recognizing the highly technical problems inevitably involved in the

preparation of a substantive text giving effect to the numerous changes which have now been agreed upon, the Congress, on the advice of the Commission, has decided that this task shall be entrusted to jurists before whom the decisions of the Congress will be laid. The text prepared by the jurists will be submitted to the members of the Commission for final approval, and the task of considering any drafting points which may emerge from the foregoing consultation has been entrusted to a special committee of three consisting of: Francis Hemming (United Kingdom), secretary to the Commission, Dr. van Straelen (Belgium), and Prof. Robert E. Usinger (U. S. A.).

Contrasted provisions for dealing with old names and new names. The *Règles* in their amended form will come into operation immediately they are promulgated. Meanwhile, arrangements are being made for the publication as soon as possible of the *Procès Verbaux* of the Commission during its Paris meeting in the Commission's *Bulletin of Zoological Nomenclature*. In general, it will be found that, in order to ward against the risks involved in retroactive legislation, the provisions relating to names already published are simpler and less rigorous than those to be applied to names to be published in the future. From now on workers giving new names will have at their disposal rules which are simple, clear, and easy to operate. The position with respect to names already published—and especially names published before the introduction of the *Règles* 50 years ago—will necessarily be rather more complicated. It is hoped, however, that, with regard to generic names, these difficulties will be largely overcome by a rapid and substantial extension of the "Official List of Generic Names in Zoology," for under the arrangements now agreed upon, a name once placed on this List is not to be changed for any purely nomenclatorial (as contrasted with taxonomic) reason without the prior approval of the International Commission. A similar provision has been made with regard to the trivial names of species, and for these also there has now been established an "Official List" of names which are not in the future to be changed for purely nomenclatorial reasons without the prior approval of the Commission. The establishment of these two "Official Lists" makes it possible for specialists in any group to concert proposals for submission to the Commission for the insertion on these "Official Lists" of the names of the genera and species in their group and thereby to protect those names from changes for any reason other than taxonomic considerations.

The value of preliminary studies on particular problems. The work of the present meetings was greatly assisted on two important matters by the decision taken at the previous Congress (held at Lisbon in 1935), that before the present meeting a detailed study should be made on two important questions of nomenclature which had been a cause of difficulty for many years. In each case the reports so submitted to the Paris meeting provided the basis for an agreed settlement. The first of these reports was concerned with the meaning of the expression "nomenclature Binaire" as used in the *Règles*. In this case the Commission and the Congress have agreed

to substitute the expression "nomenclature binominale" for the expression referred to above, subject to the incorporation of safeguards for generic names published by "binary" though not binominal authors. The second of these reports was concerned with the problem of the nomenclature of forms of less than subspecific rank, a matter on which no provision had hitherto been made in the *Règles*. In this case also the report submitted provided the basis for an agreed settlement. The Commission and the Congress have been so much impressed by the value of this procedure that they have now agreed that similar Reports should be prepared for consideration at the next Congress in regard to other difficult problems, including (1) the treatment of Family names, (2) the nomenclature of Orders and higher groups, (3) the rules which should govern the emendation of names, and (4) the problems presented by the demand for the recognition of "neotypes."

Settlement of outstanding individual cases. Owing to the war and other causes the Commission, at the beginning of its Paris meeting, was confronted with heavy arrears of work in connection with individual applications submitted to it by specialists in different parts of the world. During the recent meeting decisions were taken on almost all of these cases, and these decisions will be promulgated in the near future.

The future outlook. The effect of the reforms in the *Règles* instituted during the Paris meeting will be to provide zoologists with a system of law which will be much easier to operate and will ensure stability and uniformity in the nomenclature. At the same time the reforms in the constitution of the Commission and its procedure will assure to zoologists a central authority with regard to all matters relating to zoological nomenclature far more representative and international than ever before and, as such, capable of providing a service more extensive and of much greater value than has been possible at any previous time.

FRANCIS HEMMING, *Secretary*

Water at -72° C

Reports by McCracken (*Science*, November 7, 1947, p. 453) and Rabel (*Science*, May 28, p. 567) prompt the writer to describe a demonstration experiment which he has been using for some years to illustrate the undercooling of water. A freezing mixture of shaved ice and alcohol is prepared, the temperature of which is carefully measured to be between -5° and -7° C, and placed in a wide-mouthed, 500-cc vacuum bottle. A 7- to 10-cc test tube three-quarters full of tap water is placed in the freezing mixture and agitated, with a thermometer as a stirring rod, until the temperature is just below $+4^{\circ}$ C. Agitation is then stopped, and almost invariably the water temperature falls to the subzero temperature of the freezing mixture. The test tube is then removed from the freezing mixture and shown to the class; a single rapid shake of the test tube suffices to initiate freezing with the attendant rise in temperature to 0° C—which the experiment is primarily intended to demonstrate.