Improved stability for biological nomenclature

SIR—The pressure from the users of names of organisms on taxonomists to produce more stable systems of names is increasing¹⁻⁴. Names change for one of two reasons: the strict application of the rule of priority or other nomenclatural caveats of the appropriate International Code; or new knowledge on the circumscription, rank or position of a taxon. Changes of the latter kind result from the advancement of scientific knowledge and are of value because they illuminate not only taxonomic relationships but other features, such as physiological and biochemical attributes. Changes for nomenclatural reasons alone, in contrast, benefit no-one.

In perpetuating the present system, taxonomists are failing to satisfy their consumers⁵ and it is therefore not surprising that support for taxonomic research and services is limited. The instability of names is a severe handicap for such consumers as developers of data retrieval systems, and for health, trade, conservation and quarantine authorities in drawing up legislation, regulations and property rights protection.

Bacteriologists overcame this problem in 1980 by the adoption of a new starting date for nomenclature and the publication of an 'Approved List' of names^{6,7} which reduced the number of species names from about 30,000 to only 2,500. In the case of groups covered by the International Code of Botanical Nomenclature (ICBN), about 36,500 generic and 400,000 species names are in use, out of about 79,000 generic and 1,700,000 species names published. It has been suggested that approved lists of names are issued at five-yearly intervals⁸; that a list of currently accepted names of the world's flora be produced which could be accorded some specially protected nomenclatural status⁹; and in zoology that names in particular books or papers be granted a protected status^{10,11}.

Proposals to introduce formal procedures for the registration of newly published names¹² were debated during the XIV International Botanical Congress in Berlin in July 1987. A special committee on registration was established which is to report to the next Congress in Tokyo in 1993. Such a process would not, however, overcome the instability caused by the

repeated re-introduction of long-forgotten names. The International Union of Biological Sciences (IUBS), with the support of the International Association for Plant Taxonomy (IAPT), sponsored an international meeting at Kew on 22–23 April 1988 to consider the feasibility of the production of lists of names in current use for all groups of organisms covered by the ICBN, namely living and fossil flowering plants, ferns, mosses, hepatics, algae, cyanobacteria, fungi (including lichens) and certain protists. The meeting was attended by 23 specialists including key personnel associated with the current cataloguing of names (that is, the *Index Algarum*, *Index of Fungi*, *Index Kewensis*, *Index Muscorum*, *Index Nominum Genericorum*), together with representatives of selected user groups. A full report of this meeting will appear in both *Biology International* and *Taxon*, but its key conclusions are outlined in this letter.

The preparation of lists of names in current use was agreed to be a worthwhile objective in itself, and, if such lists were accorded protected nomenclatural status, this would almost entirely eliminate the majority of name changes due to nomenclatural reasons. This objective is now technically feasible for the ~ 36,500 generic names in use for all groups covered by the ICBN, given the machine-readable and card files which have already been compiled. The starting point for this list will be the IAPT *Index Nominum Genericorum* database held at the Smithsonian Institution, and it should be published in 1991. The situation for the ~400,000 current species names varies markedly and separate lists will have to be prepared for each group such as legumes, mosses and yeasts. Pilot studies are now feasible, given the necessary resources.

It was decided that the IUBS, through its Commission on the Nomenclature of Plants, be asked to establish a special committee on names in current use. This should make detailed proposals to the next International Botanical Congress about granting special status to the lists of generic names and the appropriate mechanisms for updating these lists, as well as about procedures for the preparation and adoption of species names lists. This committee would work in collaboration with the existing committee which is considering the question of the registration of newly published names.

If the necessary funding can be obtained, there is now a plan which, if accepted by the biological community at large, would materially improve the stability of names of all organisms covered by the International Code of Botanical Nomenclature. The participants in the Kew meeting wish to encourage a lively

debate on this matter, and invite comments from both users and taxonomists, which will be considered by the proposed special committee responsible for both the production of the generic and pilot species lists, and for the preparation of detailed proposals for decision at the 1993 International Botanical Congress.

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Seal death

SIR—During the past two months outbreaks of an acute disease have occurred among harbour seal (*Phoca vitulina*) populations in Scandinavian, German and Dutch waters. The most prominent signs of the disease are acute pneumonia in young and adult animals, and abortion in pregnant females. The mortality rate is 5–25%. Cases were first observed in the Danish Kattegat area, where about 200 aborted seal pups and hundreds of dead juvenile and adult animals were found along the coast. The disease gradually spread to the harbour seal populations in the Danish, German and Dutch Wadden Sea.

Epizootiological and post-mortem findings pointed towards an infectious agent as the cause of the outbreaks but the possible role of other factors was discussed during a meeting organized by the Ministry of Environment of the State of Sleeswijk Holstein together with G. Heidemann at the University of Kiel. Special attention was given to the possibility of a triggering role for certain environmental pollutants¹ and of the drastically increased concentrations of certain algae in the same area during the same period. No clear indications for the involvement of these factors were found. Instead there is evidence that one or more viruses are the cause. When virus isolation procedures, using seal primary kidney cell cultures, were applied to the lungs and other organs of 35 dead animals from the Danish, German and Dutch waters, a herpesvirus was isolated from eight animals by P. Häve of the State Veterinary Institute for Virus Research in Lindholm, and ourselves.

Four years ago, we isolated a herpesvirus, *Phocid herpesvirus-1*, during an outbreak of a similar disease with high mortality in baby seals nursed in the Seal Rehabilitation and Research Center in Pieterburen (The Netherlands)². This virus was characterized as a novel member of the Alphaherpesvirinae subfamily and shown to be the causative agent of the disease. Since then, we have shown that neutralizing antibodies to the virus are present in many different pinniped species in different areas, indicating that this, or a closely related virus, is widespread³.

The herpesvirus isolated during the recent outbreak is being compared with

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