

IS AN INTERNATIONAL LIST OF GENERA OF CULTIVATED PLANTS POSSIBLE?

For three years correspondence has been in progress between about fifty botanic gardens in different parts of the world with a view to a possible simplification of the international exchange of seeds. Expressions have been received from a number of gardens favoring agreement as to genera and families of cultivated plants, as follows:

Kirstenbosch, South Africa: I approve of the formation of an international list of genera of cultivated plants, provided that it is clear that this is entirely for practical convenience, and that it is not intended to be an authoritative work on systematics (*R. H. Compton*).

Melbourne, Australia: We shall be glad to cooperate with other botanical institutions in the formation of an international list of genera of cultivated plants. We follow the Engler system in the Botanic Gardens and National Herbarium. It is the most widely accepted classification and is, I think, the best for general use (*Wm. Laidlaw*).

Montevideo, Uruguay: While we fully accept the position of the International Congress of Vienna, we are forced, in the cases where we can not look into details, that is, in a great majority of cases, to accept names of the Engler system without criticism. Most botanic gardens are probably in the same position. When one once leaves the nomenclature of the Index Kewensis, which is regrettable, one must accept a number of peculiarities of the Engler system, for example the word *Thuja*, awkward for the Spanish (which is pronounced *Thucha*) instead of *Thuya* (which would be pronounced *Thuia*) (*Luis Guillot*).

Ottawa, Canada: While absolute uniformity is hardly likely to be realized, I think the curators of most botanic gardens will see the advantage of falling in line with the majority. . . . The acceptance of an international list of genera would lead to the uniformity in procedure so much to be desired (*J. Adams*).

Arnold Arboretum, Massachusetts: Generally we follow Dalla Torre and Harms except in cases where we have formed a different opinion. . . . If an international list of genera should be confined to disputed genera, it could easily be printed on a single sheet, and would be convenient to consult, and being inexpensive, would have a wide distribution (*Alfred Rehder*).

Kew, England: The formation of an international list of genera of cultivated plants would serve a useful purpose in tending to promote greater uniformity in nomenclature of cultivated plants (*A. W. Hill*).

Edinburgh, Scotland: I would be in favor of an approved list of *nomina conservanda* which insures the retention of all well-known generic names, the avoidance of subdivision of long established families and genera, and recognition of the difficulty of changing generic and specific names already rooted in horticultural practice (*W. W. Smith*).

Dublin, Irish Free State: I am strongly in favor of the idea of an international list of genera of cultivated

plants. So far as our small staff can, we will cooperate with the suggestion (*H. H. Dixon*).

Groningen, Holland: I shall readily accept in the seed list of our garden the use of the names and classification as established by the cooperating institutions (*F. C. Schoute*).

Copenhagen, Denmark: I feel convinced that it would be of real value if all botanical gardens used the same family and generic names, but I am afraid it will be a very troublesome job to unite all gardens in this way (*Axel Lange*).

Lisbon, Portugal: I promise you our cooperation (*R. Palkinha*).

A number of gardens favor adopting exactly the genera of Dalla Torre and Harms, for example:

Delft, Holland: We prefer to take the family and generic names exclusively from Dalla Torre and Harms and to follow the Index Kewensis and Christensen's Index Filicum for the names of species. We still think this the most simple way to come to an agreement (*G. van Iterson*).

Coimbra, Portugal: The system of Engler and the Index of Dalla Torre and Harms are no longer in accord with the latest works of systematists. But a collection of plants can not be changed every year. We are of the opinion that the most simple and most practical is the adoption, in principle, of the names of Dalla Torre and Harms for the Siphonogama, and of Christensen for the ferns. Those who, for systematic or other reasons, wish to use other names, could print these in slightly different characters, or mark them by a conventional sign (*L. W. Carrisera, F. A. Mendance*).

In the hope of aiding progress toward international agreement in this matter the Brooklyn Botanic Garden intends to publish, early in 1926, a preliminary list of about 2,500 genera of plants offered in the seed lists of about a hundred botanic gardens. The names will be printed in large or small type, according to the information we have received, as to whether they are more or less generally acceptable. The list will be mailed to botanic gardens and herbaria, and, on request, to others interested.

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NOTE ON THE GEOGRAPHICAL DISTRIBUTION OF THE PROTOZOAN GENUS CRYPTOCHILUM MAUPAS¹

WHILST working on the Protozoa of Bermuda in the summer of 1919 my attention was called to a parasitic form of ciliate Infusoria found, with others, in great numbers in the intestinal tract of

¹ Contributions from the Bermuda Biological Station for Research. No. 152.

Toxopneustes variegatus, a common form of sea-urchin found in this area. The organism is evidently a species of the genus *Cryptochilum*, first described by Maupas,² but differs in some minor details of structure from *Cryptochilum echini* described in the paper of Maupas cited. These differences may indicate a new species, but since the life history of the European form has been carefully investigated by Russo³ (see also Russo⁴ and Russo e di Mauro^{5, 6, 7}) it seems better to reserve judgment on this matter until the life history of the Bermuda species has been more fully worked out.

Maupas first described the species as occurring in the intestines of several *Echini* from the coast of Algiers. A little later he opened a large number of *Echinus* (*Strongylocentrotus*) *lividus* and *E. melo* at Roscoff, on the coast of Brittany, without encountering a single individual infected with *Cryptochilum*; but four years later he found it again in *E. lividus* at Banyuls-sur-Mer. He says: "It appears, then, confined to the Mediterranean."

Schewiakoff⁸ does not mention this species under the genus *Cryptochilum*, but all the species that he discusses in his paper are described as occurring in European or African waters.

In a paper by Jacobs,⁹ there are briefly described several parasites from the intestinal tract of *Diadema setosa*, from the coral reefs to the west of the Tortugas. The specimen "D" described in this paper seemed so like those found at Bermuda that I submitted a prepared slide of a specimen to Dr. Jacobs, and he says: "So far as I can tell from the slide which you sent me, the form is at least very similar to the one which I designated as 'D' in my 1914 paper."

Since 1919 I have examined large numbers of different species of sea-urchin at Woods Hole, Mass., and at Beaufort, N. C., but found no infection with *Cryptochilum* until the summer of 1924, when I had the opportunity of examining a number of *Toxopneustes* (*Lytechinus*) *variegatus* brought up by the dredge of the U. S. Fisheries boat in Core Sound, Beaufort, N. C. All but one of the

twenty-two individuals examined were infected with *Cryptochilum echini*.

Thus, the distribution of this species is far wider than suspected by Maupas. It is not confined to the Mediterranean, being common at Bermuda and at Beaufort, N. C. In all probability it will also be found in the sea-urchins of the West Indian area.

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THE LOSSES IN TROUT FRY AFTER DISTRIBUTION

MAY I ask the cooperation of your readers, fish culturists and anglers in testing the reliability of some experiments which were designed to ascertain the numbers of trout fry which survived out of a given number distributed in depleted trout streams? The importance of the experiments can hardly be overestimated, because if corroboration of the board's results is obtained in different parts of Canada and in the United States, then if economic results are aimed at, fry will have to be rigidly excluded from all waters excepting those which are known to be suitable.

Three public bodies in Canada cooperated in carrying out the experiments during the summers of 1923 and 1924: (1) The Ontario Department of Fisheries, which furnished the fry and fingerlings and in most cases distributed them; (2) the Department of Fisheries, Ottawa, which appointed an experienced hatchery officer to check the determination of losses; and (3) the Biological Board of Canada, which appointed a Mr. H. C. White to carry out the operations in the field.

In seven streams and two ponds, a total of 97,500 fry or fingerlings were planted, some in June of 1923 and some again in June of 1924. In six of the streams the losses were apparently total at the end of three months. In streams and ponds combined, apparently only 1,375 survived, being less than one and one half per cent. of the total fry planted.

The method of determining the losses was that of seining the streams or ponds and counting the survivors. A net fine enough to catch the smallest fry, and long enough to stretch across a brook is used. A stout brail or stick, about three or four feet long, is attached to each end of the net. Heavy leads are fixed to the lower side of the net, so that fry may not escape at the bottom. The upper side is held above the water by the two men who operate the net, one on each side of the stream.

The seining should be done over and over again—a dozen or more times if necessary; in fact, often

² Maupas, E., 1883, Arch. zool. exp. et gen., (2), I, 427.

³ Russo, A., 1916, Monit. Zool. Ital., Firenze, VII, 74.

⁴ Russo, A., 1914, Atti Accad. Gioenia Sci. Nat. Catania, (5), VII, Mem. 19.

⁵ Russo, A., e Di Mauro, S., 1905a, Boll. Accad. Gioenia Sci. Nat. Catania, ser. nov., fasc. 84, 3.

⁶ *Id.*, 1905b. *Ib.* fasc. 84, 9.

⁷ *Id.*, 1905c. *Ib.* fasc. 85, 10.

⁸ Schewiakoff, W. T., 1896, Mem. Imp. Acad. Sci., St. Pétersbourg, (7), IV, No. 1.

⁹ Jacobs, M. H., 1914, Carnegie Instn. Publ., 183, 147.