AN EIGHTEENTH CENTURY AMERICAN SEED LIST.

THERE is abundant evidence of the interchange of plants and seeds during the eighteenth century between England and her Colonies in North America. It is probable that the American colonists would like to have known about these plants, and the botanists would have been eager to learn more about them. There were many reasons for this, one of which was to add variety and interest to our own flora and woodlands. What was hard in climate of North America would probably thrive in England under certain conditions. It is certain that great quantities of plants were exported from America to England, and probably every household had at least one garden where they grew their own vegetables. This was because the land was too poor for proper packing and to the length of time it took for the voyage, it is reasonably certain that the mortality among such consignments was very high. In order to prevent this, the ships were placed in cold storage and packed with snow and ice. This was not a very satisfactory method, and it was doubtful if any seeds would live more than a few days under these conditions.

I have lately obtained the MS. List of one of the earliest consignments to England. It was sent in 1780, and it gives a number of seeds of herbs, trees, and herbaceous plants. Unfortunately, the List is not dated, and the paper on which it is written is not too legible. But its approximate date may be arrived at in other ways. The List is described as "The Contents of a Box marked L. T. F., to be sent to Lord Viscount Townshend." On the blank fourth page is written in another hand, "Copy of a List of Seeds sent to Lord Viscount Townshend, a copy of this List sent to Mr. Jones at Philadelphia." The List of the box was most likely to be learned by the use of the Marquis of Buckingham and the Duke of York, who received it from the Duke of Buckingham and the Duke of York. The Marquis of Buckingham was the King's ministry, and the Duke of York was the Duke of York, who received it from the Duke of York. 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introduced purely subjective considerations into nomenclature, and led to the same name being employed simultaneously for different groups. Its adoption was due to a misunderstanding of the respective spheres of taxonomy and nomenclature. It is the task of the taxonomist to delimit natural groups in accordance with the views of their inter-relationships. As soon as a given group is circumscribed, it is the task of the nomenclaturist to determine its correct name in accordance with rules of nomenclature. Taxonomy is largely a matter of opinion. Nomenclature is concerned solely with facts. An example may serve to make this clear.

In 1827 Dumortier gave the name Klokki to a genus of Scrophulariaceae including Linaria Elatine and L. spuria, which differ from other species of Linaria in the mode of dehiscence of the capsule. Dumortier soon reduced Klokki to Linaria, and the name was adopted for a genus of Apocynaceae described by Blume. Some botanists now consider the first Klokki a good genus, and retain that name for it. Other authorities consider that the first Klokki is a synonym of Linaria, and use the name Klokki for the Apocynaceous genus. The name of the second genus has thus been made to depend, not on questions of fact, but on the taxonomic validity of the first genus, which is a matter of opinion. If we accept the rule that a name may not be used twice for groups of the same category no uncertainty can arise; only the first genus can bear the name Klokki. The International Rules require alteration in this respect.

(To be continued.)

TREES AND SHRUBS.

BERRIED BARRBERIES.

All Barberries bear berries, but until recent explorers in China sent us seeds of the species so common in the upland scrub of the Tibetan border, few cultivated species owed their place in our gardens to this berry producing character. Berberis vulgaris and some of its allies were well known, so was B. Aquifolium, and both are beautiful in berry. B. concinna from the Himalaya did not prove a really good berry in many places, but Wilson, Purdom, Farrar, Forrest, and Ward have all sent us brilliant berried species of various habits, and most of them are worth a place, especially as, in many cases, their leaves become brilliantly coloured in autumn, and the berries, being sour, are not quickly stripped from the bushes by the birds.

The limits of the species are not easily defined, but the seed collected in China usually comes true. So soon, however, as the plants produce seed in England, varieties occur (we refer now to the bright red berried deciduous species) and the limits which might be set to species, so far as the different groups of seedlings from wild sources go, are unvisited. This probably arises from the plants being, as a rule, self-sterile or nearly so, and from the presence of planting few shrubs of one species close together. Isolated shrubs rarely berry freely, and usually carry pollen from one species to another when they are in proximity. Consequently hybrids are frequent and some are more striking than the original species. Many hundreds of hybrid seedlings have been named and distributed from Wisley during the past five or six years. The first named came from seed of a plant obtained from Miss. J. Veitch and Sons, Coombe Wood Nursery, as B. Wilsoniae. It had the habit of that plant but differed in having brighter coral berries and in some minute characters. The seedlings varied enormously and probably the variety to several different crossings from the parent vegetative, implicates, for the enormous number of its rather small fruits. Comet, the subject of the supplement to the Gardeners' Chronicle of February 2, bears as many and larger, more densely packed and rather paler scarlet berries.

The only way of increasing these forms is by layers or cuttings, and layers, though slow, are best. Fortunately the bushes transplant easily, grow in any well drained soil, and are best in the full sun. A stony bank, so long as it is not too dry, will suit the plant, and there are few subjects which can be recommended to who have a little space to devote to the beautiful but very prickly plants. F. J. ARAUCARIA CUNNINGHAMII.

The tree of Araucaria Cunninghamii illustrated in Fig. 39 is growing in the Adelaide Botanical Garden, and its very large size may be seen from comparison with the other trees grown in company with it. This species is said to

FIG. 39.—ARAUCA.RIA CUNNINGHAMII IN THE ADELAIDE BOTANICAL GARDEN, SOUTH AUSTRALIA.
PRINCIPLES OF NOMENCLATURE.*

(Concluded from p. 35.)

(3) APPLICATION OF NAMES.

In the early days of systematics a name was applied to a concept rather than to an entity. Everything that agreed with a concept was given to the genus, and the generic name was based on all the known species. Consequently when a genus was divided into two or more genera, there was often a difference of opinion as to which of them should bear the generic name. The only certain method of applying names is by means of types. Under the type-method, when an author publishes a new genus he designates the type-species, which is the generic name is permanently attached, either as an accepted name or as a synonym. If the genus is divided into two or more genera, the type-species of the newly described genera retains the original generic name. The type species is selected by the author as a standard. All species that are congeneric with the type species get the generic name. All others are excluded. In the same way, each species has a type-specimen to which the specific name is permanently attached.

Many botanists, however, adhere to the so-called "method of residue," which is really not a method at all, but a policy of drift. They apply a generic name to whatever is left over after the type-species has been placed in other genera.

The operation of the two methods may be studied in the genus Banisteria L. (Sp. Pl. 427). This originally included several different genera, now known respectively as Xylophragma (2 species), Stignapollen (3), Hiptage (1), and Banisteria (1). The Gouania was removed from Banisteria in 1763 and transferred to Hiptage in 1822, and Stignapollen in 1822, leaving nothing at all in the original genus. But in the meantime a number of species belonging to a fifth genus had been placed in Banisteria, because they agreed with the generic diagnosis, and the name Banisteria was kept for the five genera after all the original elements of Banisteria had been removed. Under the type method, Banisteria is retained for the genus commonly known as Xylophragma, although a Morongia from Houtouan and a Houtouan plant was Heteropteris brachiata. In other cases the method of residue results in all the characters being assigned to a type, which finally consists of a collection of imperfectly known species.

The type species of a genus must be one of the species that the genus has been described in the original publication of the genus. If there was only one species originally, then that is the type. If there were more than one, the type is fixed according to the following rules. If the original publication of a genus was not known, the author stated that a certain species was the type, it is accepted as such, regardless of other considerations.

If no type is selected, species should be selected from those species which agree best with the generic diagnosis. The generic name itself may indicate the type species. Thus Xylophragma was by a misprint X. myrtinum, no type being mentioned. As the generic name, however, was derived from the nature of the fruit, which is xylomorphic, one of the species that turns myrtle is obviously the type. Similarly the specific name may indicate the type: Chelonell Pententemum, L. is the type of the genus Pententemum, and if the type is not available, so be selected as to preserve the generic name in its generally accepted usage.

(4) Conserved NAMES AND SUBSTITUTE-TYPES.

In certain cases, it is necessary to set aside a particular name of the genus, but to keep the Rules—or, indeed, any set of rules—would lead to highly undesirable changes in nomenclature. This was recognised by the International Botanical Congress at Vienna (1890) and included in the list of "names of genera and species which are not to be used for new combinations," in Kew Bulletin, 1921, No. 9, pp. 321-326.

Numerous Cryptogamic generic names were also conserved. Additions to the list of conservable names are made by the International Congresses. Everyone will agree that such a name as Combretonia, which has been used continuously since 1758 for a genus now containing only one species, should be conserved, in spite of the fact (made known in 1923) that the earliest name for the genus is Grilesia L. (1753).

On the other hand, the use of the operation of the Rules in order to retain the generic name Brya, which comprises only three species. Each species should be judged on its own merits, and thus conserved, to be added to the list without adequate discussion.

Acceptance of the type-method will necessitate the recognition of substitute type-species for over five hundred species. It is said that Calluna vulgaris is the type species of Erica L. but in order to avoid changing the names of over five hundred species of Erica, E. Tetradactyla may be used as substitute type.

(5) LOYAL OBSERVANCE OF THE RULES.

It is of the greatest importance that botanists who recognise the International Rules should adhere closely to them in all cases. If a particular rule is not technically correct, it should be stated clearly and forcibly, and the matter should be left for decision to the next International Congress. It is the duty of every botanist scrupulously to observe the Rules. It is only a few among the minor systematists who deliberately break individual rules which they do not like, and thus disrupt their profession to serve.