

oval, then oblong; anther after flowering ovate. Phyllaries with many black and few white hairs, light green with darker centre, floccose at tip. Heads of flower flat on opening; ligules *very full yellow*; styles *slightly darkened*.

Near var. *glaucovirens* Dahl., but differing from it in the tall erect habit, closer heads with shorter peduncles, oblong very obtuse root-leaves, soft light and bright green foliage, and darkened style.

From *H. sciaphilum* Uechtr. it is distinguished by its obtuse oblong root-leaves, larger and less numerous stem-leaves, which bear larger triangular teeth, and white-haired peduncles, and by the less numerous and less black setæ of peduncles and phyllaries.

Hilly banks, on limestone and sandstone; also on mountain rocks.

Localities.—Herefordshire: Great Doward Hill; bank at Walford; Red Daren, Hatterel Hills. West Gloucestershire: Symonds Yat. Monmouthshire: Wyndcliff, *Mr. W. A. Shoolbred!* Breconshire: Bwlch-y-fingel, Black Mountain.

## THE ADVANTAGES OF 1737 AS A STARTING-POINT OF BOTANICAL NOMENCLATURE.\*

BY DR. OTTO KUNTZE.

AT request of the editor of this journal [*Gaertnerisches Zentralblatt*], I give the following newly proved list of generic names, that do not need to be changed if the starting-point of 1735 † is abandoned. The numbers before the names are the approximate number of species:—

- 15 *Aesculus* (*Pavia* 1735).
- 30 *Ageratum* (*Carelia* 1736).
- 45 *Ajuga* (*Bulga* 1735).
- 58 *Arctotis* (*Anemonospermos* 1736).
- 1400 *Astragalus* (*Tragacantha* 1735) incl.:
- 150 *Spiesia* = *Oxytropis* according to Briquet and Burnat.
- 23 *Bulbine* (*Phalangium* 1736).
- 21 *Carica* (*Papaya* 1735).
- 8 *Carpesium* (*Conyzoides* 1736).
- 1 *Cassandra* (*Hydragonum* 1736).
- 132 *Clitoria* (*Ternatea* 1735).
- 3 *Coix* (*Sphærium* 1735).
- 1 *Convallaria* § L. (*Majanthemum* 1736). [§ is the sign for group (section, subgenus or discretionary genus); § L. 1737 means a group of Linnæus.]

\* Translated by the author from the *Gaertnerisches Zentralblatt*, Berlin, 1899, No. 2. The article contains a new motive for 1737, and at the last a new international proposition not yet known to English botanists.

† [The date of the first edition of the *Systema Naturæ*.—ED.]

- 230 *Cordia* (*Lithocardium* 1735).  
 6 *Corrigiola* (non 1736).  
 170 *Crepis* (*Hieraciodes* 1736), if separated.  
 600 *Croton* (*Oxydectes* 1735).  
 1 *Cuminum* (non 1735).  
 180 *Cynanchum* (*Vincetoxicum* 1736) sensu latiore.  
 1 *Dryas* (*Dryadæa* 1735).  
 72 *Echinops* (*Sphærocephalus* 1735).  
 12 *Elatine* (*Potamopithys* 1735).  
 400 *Erica* Ludw. 1737 (*Ericodes* Möhr. 1736).—*Erica* L. 1737 is partly *Calluna* Salisb. 1802 = *Ericodes* Ludw. 1737 (non Moehr.), Z. T. *Erica* Ludw.—Linnæus' indication "*Semina numerosa*" is only fit for *Erica* Ludw., because *Ericodes vulgare* O.K. (*Calluna vulg.*) has at most 8 seeds.  
 34 *Erythrina* (*Corallodendron* 1735).  
 8 *Feuilléea* (non 1735).  
 5 *Galanthus* (*Chianthemum* 1736).  
 2 *Galeopsis* (*Ladanum* 1735).  
 180 *Geranium* § L. 1737; 1753 ex parte max. (*Geraniospermum* Sieg. 1736 = *Pelargonium*! Burm. 1738); eventually incl.  
 — *Gruinalis* § L. 1737, Ludw. 1737, Haller 1745 (*Geranium* Sieg., L'Hér.).—Linnæus distinguished 1737 (in *Genera Plant.*: 204) under *Geranium* in an observation: *Geranium* "Riv.," corolla irregulari. *Gruinalis* "Riv.," corolla æquali et filamentis vix manifeste coalitis. Haller in *Flora Jenensis* 1745 had under *Gruinalis* only species which we call now *Geranium*. Nearly all species of *Pelargonium* are already named under *Geranium*, and *Geranium* is still a popular name of several nations instead of *Pelargonium*. But it would not be necessary to name the species under *Gruinalis*, because both genera are better united again, as all indicated differences are not decisive, varying from species to species.  
 90 *Gomphrena* (*Xeræa* 1735).  
 30 *Helenium* (non 1735).  
 1 *Illecebrum* (non 1736).  
 400 *Inga* § L. 1737 (*Feuilléea* 1735) sensu latiore.  
 90 *Inula* (*Helenium* 1735).  
 1 *Lagoecia* (*Cuminum* 1735).  
 100 *Lepidium* (*Nasturtium* 1735).  
 12 *Linnæa* (*Obolaria* 1736).  
 1 *Lunularia* (*Marsilia* 1735).  
 23 *Melilotus* (*Sertula* 1735).  
 4 *Melia* (*Azedarach* 1735).  
 13 *Michelia* (non 1735).  
 156 *Nepeta* (incl. *Glechoma* 1735).  
 1 *Obolaria* (non 1736).  
 8 *Ornithopus* (*Ornithopodium* 1735).  
 2 *Patagonula* (*Patagonica* 1735).  
 220 *Oxalis* (*Acetosella* 1736).  
 27 *Phlox* (*Armeria* 1735).

- 540 *Phyllanthus* (*Diasperus* 1735) sensu latiore.  
 10 *Pistacia* (*Lentiscus* 1735).  
 110 *Psidium* (*Guajava* 1736), if separated.  
 105 *Psoralea* (*Lotodes* 1736).  
 120 *Rhus* (*Toxicodendron* 1735).  
 15 *Sesamum* (*Volkameria* 1735).  
 54 *Sisyrinchium* (*Bermudiana* 1735).  
 80 *Stapelia* (*Stissera* 1735).  
 115 *Thesium* (*Linosyris* 1736).  
 48 *Tropæolum* (*Trophæum* 1735).  
 75 *Trigonella* (*Telis* 1735).  
 44 *Trichosanthes* (*Anguina* 1735).  
 1 *Zea* (*Thalysia* 1735).

6285 species in 58 genera with long-used names remain thus valid. But 329 species in 9 genera, valid from the former starting-point, receive new names; therefore 5956 species in 49 genera are spared, that is, are less to be changed, in their names, if we begin with 1737 instead of 1735. But this is the only profitable deviation from the Paris Code.

Moreover, the starting of 1737 affords the great advantage that Linnæus' *Genera Plantarum* 1737 contains besides the scientific diagnoses of the genera (which are in 1753 without diagnoses!), also definitions for named subgenera or discretionary genera; by which means an easy separation is possible into later distinguished genera. Linnæus wrote, for instance: "*Hyacinthus*, genus hocce naturale in plura non naturalia distribuerunt: ( $\alpha$ ) *Hyacinthus* quum tubus corollæ sit tubulatus oblongus: ( $\beta$ ) *Muscari* quum tubus corollæ sit fere globosus." In the same manner is distinguished *Convallaria* ( $\alpha$ ) from ( $\beta$ ) *Polygonatum*, ( $\gamma$ ) *Unifolium*. The last is now mostly valid for *Majanthemum*. In the year 1737 *Myagræum* § L.: *Rapistrum* § L.—is clear, although united under *Myagræum*; in the year 1753, when these sections (§ = subgenera = genera discretionaria) are omitted, we must decide *ex parte majore*, else the matter loses its clearness and becomes confused. The case is the same in *Calendula* and § *Dimorphotheca*, *Helianthemum*, and *Cistus*, etc. The following names are thus obtained from the §§ of 1737 for later renewed genera:—*Acacia*, *Alhagi*, *Arnica*\*\*\*, *Arisarum*, *Bernhardia*, *Bulbocodium*\*, *Cakile*, *Camara*, *Cannabina*\*, *Capnodes*, *Capnorchis*\*, *Castanea*\*\*\*, *Ceratodes*, *Cereus*\*\*, *Colocynthis*\*, *Damasonium*, *Dimorphotheca*, *Dracunculus*, *Echinophora*, *Elephas*, *Fœniculum*\*\*, *Helianthemum*, *Helleborodes*\*, *Hypocystis*, *Ionthlaspi*, *Lontana* § (= *Oftia*), *Lasianthus*\*\*\*, *Leuconymphæa*\* (= *Nymphæa* auct. recent. ;), *Nymphæa* (= *Nuphar*!), *Liliastrum*, *Limonium*, *Majorana*, *Malvaviscus*, *Meibomia*\*, *Melilotus*, *Melocactus*, *Muscari*, *Nelumbo*, *Myagræum*, *Onobrychis*, *Opuntia*, *Paliurus*, *Polygonatum*, *Raphanistrum*, *Rapistrum*, *Rhagadiolus*, *Securidaca* (*Securigera* DC.), *Statice*, *Symphoricarpus*, *Thymbra*\*, *Triosteospermum*, *Trollius*\*, *Tulipifera*, *Unifolium*, *Zacintha*\*\*.—(One \* means that Linnæus gave such an \* to these names in the index of his *Genera Plantarum*; \*\* means that Linnæus had that name in 1735 for a genus; \*\*\* indicates both.)

From these discretionary genera, considered by Linnæus and other authors at one time as genera, at another time as sections, a systematic decision is easy; only two dubious cases occur: the first rare case is that the same group (*a*) received two names, such as *Sida* and *Malvinda*; then the genus name, which received first a species name, is valid. The other case is that three to four names occur for the same now united group; then the name under which they were first correctly united is to be valid. For instance, *Lonicera* 1737 consists of four genera, and is thus confused; Haller, after exclusion of the genera not belonging thereto, first united *Caprifolium*, *Periclymenum*, *Chamæcerasus*, *Xylosteum* under *Caprifolium*. *Lobelia* Pl. is correctly defined as a §, and is therefore to be excluded; the rest was named then at first *Rapuntium*, under which name most of the species are already named in the monograph of Presl. Some genera would have to receive new names, if their name were not secured from the § of 1737—e.g. *Helianthemum*. The name *Cactus*, after exclusion of the §§ of 1737, remains good for the remaining part.

In contrast to these great advantages and savings of the 1737-starting-point, there are—see my *Revisio Generum IIII*, chapters 27 and 28—to be changed with the 1753-starting-point the names of 7100 species and 129 genera, whereof only 29 genera with 152 species are named up to the present time. Furthermore, 46 genera thereof with 3621 species would have still to receive new and unusual names, instead of those introduced from the earlier starting-point. But even with this the number of these changes is not finished, because the starting-point of 1753 for genera has not yet been completely worked out. This 1753-starting-point is thus not only horribly *noxious* but also *unscientific*, as it misses the genera-diagnoses and nearly all the named genera-sections. *Only the 1737-starting-point is practicable, scientific, and economical for genera.* Perhaps a general convention may be agreed upon to the effect that the 1737-starting-point be valid for genera, 1753 for species *with future exclusion of all intermediate works*—that is, of all publications between Linnæus' *Genera Plantarum* 1737 and *Species Plantarum* 1753.

[Dr. Kuntze has shown, as might have been anticipated, that for the starting-point of genera there are great advantages attending the adoption of 1737, the date of Linnæus' first edition of the *Genera Plantarum*, in preference to the *Systema* of 1735. The Paris Laws of Botanical Nomenclature (1867), art. 15, would have seemed to sanction the use of the names in the publication of 1735, had not they generally been bare names without descriptions or characters, and therefore barred by art. 46.

Dr. Kuntze's concluding proposal is remarkable and arbitrary, and doubtless to many minds will appear unfair as well as inconsistent with sound principles. It is to the effect that, after taking Linnæus' *Genera Plantarum* of 1737 for the starting-point of genera and the *Species Plantarum* of 1753 for that of species, all publications between these dates be in future for ever excluded. It is difficult to see why, if 1737 be made the starting-point, the *Corollarium Generum*

*Plantarum* of Linnæus, published in 1737, subsequently to the *Genera Plantarum*, should be ignored, as well as such important publications as Linnæus' second edition of the *Genera Plantarum* (1742) and the second and sixth editions of the *Systema Naturæ* (1740 and 1748), and all the works of contemporaneous authors.

The Berlin Code of 1897 makes 1753/54 the starting-point for the names of genera as well as species; and the general tendency of modern botanists is now and for some time has been towards agreement to this rule—that is, to take the publication of the first volume of the *Species Plantarum* as the earliest authoritative publication for the names of plants. Such an epoch is essentially convenient and proper, and fairly scientific; the species there are comprehensively for the first time on the Linnean plan both named, classified, and described. Their names of course are not limited to the trivial portion, but necessarily include also the generic portion, and thus the names of his genera can be understood, though they are not as such specially defined or characterized, the only sort of description being involved in that of their respective species. The 1752 and 1754 editions of the *Genera Plantarum* are available as informal or further assistance to clear up doubts about the meaning of the generic names. Moreover, it may be urged that, in dealing with the genera of such an early period of systematic knowledge, when plants were grouped in genera after a fashion often very different from what now prevails, and when short definitions were considered sufficient, it is much more instructive and satisfactory to know precisely what species an author included in his genus than to be able only to rely on the characters which he ascribed to it. In general a species may be regarded as a natural entity in a greater degree than a genus can be, and in a much greater degree than many of Linnæus' genera; and, although in some cases his species are made up of a mixture of quite different plants, in the great majority of cases no doubt need exist as to the genus (as now understood) to which his species belonged, and thus by means of the *Species Plantarum* it is possible to understand the significance of his genera in a clearer manner than can be deduced from his *Genera Plantarum*.

Dr. Kuntze, in the second part (1898) of the third volume of his *Revisio Generum Plantarum*, chapters 27 and 28, has shown that a large number of names will require change if 1753 is taken as the starting-point, which need not be altered if 1737 is taken; but his figures deserve careful scrutiny, and some of the principles and details which he assumes for the purpose of his calculations must be duly weighed before acceptance. Of the numerous specific names which he has given in the *Revisio* in accordance with his present or previous principles, comparatively few have obtained general use, and science will not greatly suffer if, in accordance with modern or better principles, many of them must now be given up, and others or new ones substituted. On the whole, it may be conceded that 1737 is a preferable starting-point to 1753, but it remains probable that 1753 will be decided to be the best, the most convenient, and sufficiently scientific.—ED. JOURN. BOT.]



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