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Author(s): H. J. Welch

Reviewed work(s):

Source: *Taxon*, Vol. 27, No. 2/3 (May, 1978), pp. 187-190

Published by: [International Association for Plant Taxonomy \(IAPT\)](#)

Stable URL: <http://www.jstor.org/stable/1220238>

Accessed: 15/08/2012 05:11

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ON THE DIFFERENCE BETWEEN BOTANICAL AND HORTICULTURAL NOMENCLATURE AND THE STATUS OF BOTANICAL COMBINATIONS BASED SOLELY ON THE DESCRIPTION OF A CULTIVAR

H. J. Welch*

Summary

Botanical nomenclature exists to serve botanical classification: horticultural nomenclature exists to serve horticultural selection. Hence the wisdom of having two Codes and the importance of keeping these two separate matters distinct *at all levels*. Botanical nomenclature is obligately classificatory. In contrast, horticultural nomenclature does not arise unless and until a cultivar has been created by selection from amongst other material within (actually or conceptually) the same botanical taxon. A cultivar, whether consisting of one clone or a thousand clones is a single, recognisable entity. No objection can be raised to a botanical combination, *if correctly proposed*, being based upon a pre-1st January 1959 Latin-form cultivar name. Many such combinations, however, were not in the past correctly proposed. A Latin-form trinomial name given to a cultivar is not a validly published combination (Article 33). A cultivar, by definition, is not a taxon (Articles 1-4), so reference to the description of a cultivar does not satisfy the requirements of Article 32. A proposed combination based solely on the description of a cultivar (the describing author's intention here is paramount) is therefore not validly published and must be rejected.

I am sorry to see in their "Reply to Mr. Welch" in Taxon 24 (5/6): 629-632. November 1975, that Sponberg and Shaw found my Article in Taxon 23 (2/3): 355-356. May 1974, difficult and confusing. I am grateful to them for devoting time to studying it and am particularly pleased that they have explained my thoughts so very much better and more clearly than I myself was able to do.

The logic of my Article, now that it has been so capably presented, speaks for itself, so I only need to comment on a few points where my thoughts may still not be quite understood. Some of my remarks must have been read out of context. My article related only to a particular group of plants, i.e. the garden forms that received Latin-form names, were at one time treated as botanical combinations but are once again regarded as cultivars. It is a limited — albeit important — group, which closed its ranks on 1st January 1959. Similarly, my "corollary" regarding the undesirable use by horticultural writers of valid botanical epithets as cultivar names was only directed against pre-1st January 1959 names such as *Juniperus communis* var. *montana* Ait. wrongly appearing as *Juniperus communis* 'Montana'. Some of my remarks may have wider implications, but they should first be understood in their context. Since, amongst long-lived woody plants a cultivar is frequently a single clone I apologise for having committed the common fault of using the two terms as being loosely interchangeable, but I certainly do not have the restricted definition attributed to me.

I have an almost reverential respect for the late Professor Alfred Rehder. His remark "Botanical nomenclature ... is classificatory ... horticultural nomenclature is selective" [Bibliography xi (para. 3). 1949] could be described as being of apostolic profundity and I believe it must be listened to. The distinction he makes underlies the wise choice to have two Codes rather than one. The difficulties we are here considering arise from Rehder (and, of course, other

* The Wansdyke Nursery, Hillworth, Devizes, Wilts. United Kingdom.

writers) not having himself had regard in his earlier work to the distinction he so clearly pointed out towards the end of his life. It aligns exactly with the “essential difference” between the two concepts, *varietas* and cultivar, stated in Clause 10 Note 2 of the *Cultivated Code*. (To suggest that an International Commission when formulating a Code used the words “essentially different” when what they really meant was “not necessarily and automatically the same” is attributing to the members such a low standard of intelligence that I personally cannot credit it. I prefer to believe that they meant exactly what they wrote.) Extension of the same principle to all botanical ranks inescapably follows and I have submitted a Proposal to amend the *Cultivated Code* which would make this clear. The *Botanical Code* recognises the same distinction by not including Cultivar in the definition of the term “taxon”.

I completely reject Sponberg and Shaw’s statement in their Summary that “Cultivars ... may comprise the entire ranked category”. Because of the essential difference between the concepts *this can never be the case*. Even where a botanical *forma* (i.e. the most likely case) today may appear to be and (for many practical purposes is) identical with a named cultivar, further discoveries in the wild or the appearance of a new selection requiring its own cultivar name under Article 12 can upset this apparent situation overnight. *To cite an example*: In 1922 Rehder correctly proposed the combination *Juniperus squamata* var. *meyeri* using cultivated material and validly published the name in Journ. Arnold Arb. 3: 207. 1922, adding a note that it had been found growing in China as a pot plant and was alleged to have come from South-western Shantung. Whatever we today, with hindsight, may think of his action Rehder was within his botanical rights. Furthermore, his procedure was correct and so his *varietas* stands, but the plant from which he took his description was an excellent garden plant and quickly spread widely in cultivation (undoubtedly from clonal material). So for many years it has been grown as cv Meyer and might well at one time have been cited to refute my present contention. But it is — in the one direction — indisputable that a wild population *may* exist (in South-western Shantung, perhaps) containing plants that are horticulturally inferior and so quite unacceptable as cv. Meyer. In the opposite direction, two mutations of cv. Meyer have been given cultivar names in Holland. ‘Blue Star’ makes a congested small bush, ‘Blue Carpet’ a prostrate plant. And recently a seedling raised in Sweden and given the cv. name ‘Holger’ has attractive golden young growth in early Summer. There may be others yet to come. Who can say? Yet all will, presumably, fall within the circumscription of *Juniperus squamata* var. *meyeri* Rehd.

Botanical science sets itself the task of classifying plants — all plants, past, present and future — so as the Reply rightly says “Botanical nomenclature is obligately classificatory”. Horticultural nomenclature is quite different.¹ It does not arise at all unless and until a horticulturist “selects” a garden-form because of some desirable and distinctive qualities and starts to propagate it, thereby creating a cultivar. (The word “garden-form” here includes a wildling and may be a single clone or a thousand clones. This matters not at all; in either case the cultivar, seen through horticultural eyes, is a single, recognisable entity.) The limits of toleration will vary from case to case for horticultural reasons, but there is here no classification — save only that thereafter, individual plants will be separated by the one simple criterion ... “Yes, it is the same”, or ... “No, it is not”.

Further simplification if required comes from considering the only two situations in which a name has to be found. *Case 1*. As a result of fresh discoveries in the wild or further study a botanist will propose an alteration of some kind in the present classification (this could be a “change” in the strict sense or an extension because of a newly found species.) Unless there is a name

¹ See Article 28 of the *Botanical Code*.

which he is bound to use he must "find" a new Latin-form name acceptable under the *Botanical Code*. His proposals will be studied by later workers and will stand or fall in the end by the consensus or worldwide botanical judgment. *Case 2.* A horticulturist, having created a cultivar by selection in the way described, (passing over all the other plants insufficiently outstanding in his mind to bother with) must find a name, a "fancy" one acceptable under the *Cultivated Code*, and in this case recognition of his cultivar will rest upon acceptance in horticultural circles of its novelty and distinctiveness.

In either case nowadays it will be clear which situation arises. There is no overlapping, no "grey" area to cause confusion. The two Codes have no interface. Like adjacent islands, they approach but have no common land boundary. But in the days when Rehder's Manual was amaking it was quite otherwise. Lacking guidance from any *Cultivated Code*, well-intentioned writers of the period did not discern this clear distinction and they attempted to deal with the cultivars within the Botanical system. The illogicality of this is exposed by the fact that the system would only accept trinomials, so the quadrinomials had to be left as they were. But what imaginable difference can there be in status between, for example, the cultivar *Chamaecyparis lawsoniana minima* that would "go into the machine" and the cultivar *C. l. minima aurea* that would not?

In result both botanists and horticulturists are left with an embarrassing legacy of confusion and uncertainty. Horticulturists tend to meet this difficulty by ignoring it. To cite two recent cases — the Kew Hand-list of Coniferae (i, 1961) tells us that these cultivars "should no longer be allowed to masquerade as botanical entities" and in the new edition of Bean (Ed. 8, 107, 1970) we read "The application of botanical rules to latin-named cultivars has been a source of confusion" and (p. 103) "The fact that these variants have been given botanical status is of no significance and the ... names can be discarded". These precedents still leave room for uncertainty so I have submitted a Proposal for an amendment of the *Cultivated Code* which would have the effect of authorising garden-forms originally (i.e. before the 1st January 1959) given Latin-form forms cultivar names and today recognised as cultivars being regarded as having held cultivar status uninterruptedly.

Botanists, too, face a similar problem, but I believe that a fresh look, not at what those writers had a right to do, could have done, intended to do or thought they had done, but at what they actually did, may prove this to have been much less than has been supposed.

I have already helped to point out with the assistance of Dr. W. T. Stearn [Taxon 17 (5): 545. Oct. 1968] that at least one widely used combination (i.e. *Juniperus communis* var. *saxatilis*) is illegitimate because the author had no formative intention in 1788 (See Article 33 of the Botanical Code) and because subsequent authorities had failed to supply the necessary reference to a published description to secure valid publication under Article 32. Each of the names under consideration will need separate examination, but it seems certain that many of them are in a like case.

Where an author, prior to the advent of a *Cultivated Code* and in a predominantly horticultural context, used a tri- or multinomial name in Latin-form and effectively published a description of what he clearly regarded as a cultivar, the requirement as to intention (i.e. formative intention in a botanical context) of Article 33 of the *Botanical Code* is not satisfied, so the name is not a validly published combination, and according to Article 34 mere citation thereof does not validate it. A cultivar not being a taxon (the word being an abbreviation of "taxonomic group") within the definition of Articles 1-4, reference to the description (being only that of a cultivar) does not satisfy the requirements of Article 32. Any proposed combination, therefore, attributing the name to the author of the trinomial, merely citing it as a synonym, or supported solely by reference to the non-qualifying description, falls to the ground. Since "intention" is the sole criterion, each such name and description

needs to be separately examined, but a general, uncritical use of the English words “variety” or “form” (or abbreviations thereof) throughout the work in which the description was published is not, of itself, evidence of the “definite intention” required by Article 53, if the author’s intention in giving names was evidently horticultural rather than taxonomic.