

The correct Latin names for the Primrose and the Oxlip, *Primula vulgaris* Hudson and *P. elatior* (L.) Hill

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ABSTRACT

The correct Latin names for the Primrose and the Oxlip are maintained as *Primula vulgaris* Hudson and *P. elatior* (L.) Hill (Primulaceae), despite recent assertions that the Primrose should be called *P. acaulis* (L.) L. and that a question hangs over *P. elatior*. Additional evidence of Linnaeus's intentions in his *Flora Anglica* is provided in different printings of this work which have been previously overlooked.

INTRODUCTION

It may seem surprising and unfortunate that there should still be disputes over the correct Latin names of the Primrose and the Oxlip after three centuries or more of the study of the European flora and well over two centuries of the adoption of Linnaean binomial nomenclature. However, Greuter (1989a) resurrected the name *Primula acaulis* (L.) L. for the Primrose. This has been adopted in the *Med-Checklist* (Greuter, Burdet & Long 1989), and new subspecific combinations have been published by Greuter & Burdet (Greuter 1989b). It has also been maintained that unless the arguments for this are accepted it is impossible to maintain the name *P. elatior* for the Oxlip. The decisions depend largely on interpretation of Linnaeus's *Flora Anglica* (1754), a dissertation defended by his student Grufberg. During preparation of the account of Primulaceae for the *Flora of Cyprus* (Meikle 1985), we looked into this question and were satisfied that there was no threat to the well-established *P. vulgaris* Hudson, and we maintain this position now. Re-examination of the facts has brought to light an overlooked significant variation in the typography of the 1754 *Flora Anglica*, which reinforces our opinions.

THE LATIN NAME OF THE PRIMROSE

In *Species Plantarum* (1753), Linnaeus did not provide a specific binomial for the Primrose because he adopted a broad species concept, recognising the Cowslip, Oxlip and Primrose as one species, *P. veris*, with three varieties, var. *officinalis*, var. *elatior* and var. *acaulis* respectively. (This taxonomic concept persisted in British botany through all editions of Bentham's *Handbook of the British Flora*, to Rendle's 7th edition in 1924.) In 1762 William Hudson published his *Flora Anglica*, including the Cowslip and Oxlip in *P. veris* but raising the Primrose to specific rank with the new name *P. vulgaris*. In 1765 John Hill also gave the Primrose specific rank, but took up Linnaeus's varietal epithet *acaulis* as *P. acaulis*, a name which has occasionally been adopted since. However, at specific rank *P. vulgaris* Hudson has three years' priority over *P. acaulis* (L.) Hill and so has been widely adopted.

The current argument is over the rank given to the Primrose in Linnaeus's *Flora Anglica* (1754). Greuter (1989a) has concluded that here Linnaeus raised the Primrose to specific rank under the

Echium	<i>vulgare</i>	227-1.	Solanum	<i>nigrum</i>	265-4.
	<i>Lycopsis</i>	227-2.		<i>Dulcamara</i>	265-1-2.
Primula	<i>veris officinalis</i>	284-3.	Ramnus	<i>catharticus</i>	466-1.
	<i>elatior</i>	2.		<i>Frangula</i>	465-1.
	<i>acaulis</i>	1.	Evonymus	<i>europaeus</i>	468-1.
	<i>farinosa</i>	285-1.	Ribes	<i>rubrum</i>	456-1.
Menyanthes	<i>trifoliata</i>	285-1.		<i>alpinum</i>	456-2.
	<i>Nymphoides</i>	368-2.		<i>nigrum</i>	456-4.
Hottonia	<i>palustris</i>	285-1.	Hedera	<i>helix</i>	459-1.
Lysmachia	<i>vulgaris</i>	282-1.	Illecebrum	<i>verticillatum</i>	160-1.
	<i>thyrsiflora</i>	283-3.	Glaux	<i>maritima</i>	285-1.
	Nummularia	283-1.	Thesium	Linophyllum	202-1.
	<i>nemorum</i>	282-5.	Vinca	<i>minor</i>	268-1.
Anagallis	<i>arvensis</i>	282-1.		<i>major</i>	268-2.

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FIGURE 1. Linnaeus's *Flora Anglica* (1754); lower part of p. 12, from Ray Society 1973 facsimile.

name *P. acaulis*, so that this name has priority over *P. vulgaris* Hudson (1762). Stearn (1973, p. 68), however, in collaboration with the late J. E. Dandy, had concluded that Linnaeus merely repeated his taxonomy of *Species Plantarum* in his *Flora Anglica*, and that apparent inconsistencies were due to obvious slips of the pen or typographical errors. Greuter reproduced in facsimile the relevant page of Linnaeus's *Flora Anglica* (see Fig. 1), and argued that names given there which are neither trinomial nor subordinated by indentation must be accepted as specific binomials. In the case of *Primula*, 'veris officinal[is]' appears on one line, with 'elatior', 'acaulis' and 'farinosa' on successive lines indented only very slightly under 'veris'. The indentation, or lack of it, may here tend to suggest that all four taxa were given specific rank. As Greuter has noted, the italicisation of *acaulis* merely denotes that this taxon does not occur in Sweden.

However, when we looked again at the Kew copy of *Flora Anglica* (see Fig. 2) which we had consulted ten years ago, we found that the typesetting is different from that of the Ray Society's facsimile edition (1973), and that 'elatior' and 'acaulis' are indeed indented under 'veris' almost to the position of the varietal epithet 'officinal[is]', while 'farinosa' is indented almost as far. There are similar inconsistencies between copies in indentation on the same page (see *Echium*, *Ribes*, *Hedera*, *R[h]amnus*, *Vinca*) and on other pages, and it is clear that there were at least two different printings of this dissertation and that the typesetting indentation was haphazard. We are grateful to Dr J. L. Reveal for informing us that the Natural History Museum, London possesses both printings. It appears that in the version represented at Kew the printer was instructed to remove excessive spaces between some generic names and the following epithets without moving succeeding epithets, so that indentations become quite different. Indentation thus appears meaningless as far as evidence of rank is concerned. It would be false to argue that in the Kew copy the position of the epithets *alpinum* and *nigrum* in relation to *rubrum* under *Ribes* (see Fig. 2) indicates that they represent infraspecific taxa. But certainly, if the Kew copy alone were considered, the weight of evidence from indentation alone would indicate that Linnaeus still regarded *elatior* and *acaulis* as varieties of *P. veris* and not as separate species, contrary to Greuter's conclusion.

But the clinching evidence of what Linnaeus did or did not do in *Flora Anglica* is provided by a point already stressed by Stearn (1973, p. 68). For the Cowslip, Linnaeus employed the trinomial *Primula veris officinal[is]*, indicating that he still recognised varieties in the species. If he had raised all three taxa to specific rank he would certainly have dropped the varietal epithet *officinalis*. To our knowledge, in all his botanical works he never employed a varietal epithet in species in which he did not recognise varieties. The aim of *Flora Anglica* was essentially to list the known flora of England according to the binomial system, and although he did introduce a few novelties (Stearn 1973, pp. 63-68), in the case of *Primula* it is clear that he merely retained his taxonomy from *Species*

Echium vulgare	227-1.	Solanum nigrum	265-4.
<i>Lycopsis</i>	227-2.	Dulcamara	265-1-2.
Primula veris officinalis	284-3.	Ramnus catharticus	466-1.
<i>elatior</i>	2.	Frangula	465-1.
<i>acaulis</i>	1.	Evonymus europæus	468-1.
<i>farinosa</i>	285-1.	Ribes rubrum	456-1.
Menyanthes trifoliata	285-1.	<i>alpinum</i>	456-2.
<i>Nymphoides</i>	368-2.	<i>nigrum</i>	456-4.
Hottonia palustris	285-1.	Hedera helix	459-1.
Lysmachia vulgaris	282-1.	Illecebrum verticillatum	160-1.
<i>thyrsiflora</i>	283-3.	Glaux maritima	285-1.
Nummularia	283-1.	Thesium Linophyllum	202-1.
<i>nemorum</i>	282-15.	Vinca minor	268-1.
Anagallis arvensis	282-1.	<i>major</i>	268-2.
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FIGURE 2. Linnaeus's *Flora Anglica* (1754); lower part of p. 12, from Kew copy.

Plantarum published the previous year. The erratic behaviour of a typesetter in 1754 does not alter the facts and cannot be used as a reason to upset established nomenclature of a well-known plant. Nor is the issue affected by the slightly more orderly, but still inconsistent, typesetting of the reprint of *Flora Anglica* in Linnaeus's *Amoenitates Academicæ* (1759, vol. 4), where all four epithets *veris*, *elatior*, *acaulis* and *farinosa* were equally indented under *Primula* (p. 97). The inclusion of the varietal epithet *officinalis* still indicates that Linnaeus had not changed his taxonomy. Indeed, throughout all his works Linnaeus kept the Primrose and the Oxlip as varieties of *Primula veris*. The correct name (and relevant synonyms) at specific rank for the Primrose is therefore as follows:

P. vulgaris Hudson, *Fl. Angl.*, 70 (1762).

P. veris var. *acaulis* L., *Sp. Pl.* 1: 143 (1753).

P. acaulis (L.) Hill, *Veg. Syst.* 8: 25 (1765).

THE LATIN NAME OF THE OXLIP

Having concluded that Linnaeus raised the Primrose and Oxlip from varietal rank in *Species Plantarum* (1753) to specific rank in *Flora Anglica* (1754), Greuter (1989a) has cited the correct name for the Oxlip as *Primula elatior* (L.) L., *Fl. Angl.* 14 (1754) instead of the more usual *P. elatior* (L.) Hill (1765). He has warned that, if this is not accepted, the specific name for the Oxlip will have to change. The reason for this conclusion is that he considers that when Hill in 1765 published the name *Primula elatior* he did not make a new combination based on Linnaeus's *P. veris* var. *elatior* but described a new species, which, according to Schinz & Thellung (1907, p. 333), is not the Oxlip but the hybrid between the Cowslip and Primrose, the False Oxlip. This would then mean that the name *P. × elatior* Hill would have to be applied to the hybrid, that any later combination of Linnaeus's *elatior* at specific rank would be an illegitimate later homonym, and that a new name would have to be found for the Oxlip. Fortunately we cannot agree with this sequence of conclusions.

The fact that Hill may have described and illustrated the hybrid *P. veris* × *vulgaris* under the name *P. elatior* is irrelevant if the latter is a combination based on Linnaeus's var. *elatior* (*International code* . . . Berlin 1987, Art. 7.12). The question therefore is whether Hill made a new combination or described a new species. Throughout the 26 volumes of the quarto edition of *The Vegetable System* (1759–1775), in which the name appeared, Hill never cited any authors for the binomials he used, nor did he cite any basionyms. He was, however, clearly using the Linnaean

system, to which he referred directly in his introduction (Hill 1759, vol. 1, p. 24) with a comment that "it will live . . . so long as there is science". It would be ludicrous to argue that the names he used were independent of those published previously by Linnaeus simply because he used no author citations. Such a conclusion would require that every name in all 26 volumes of the *Vegetable System* should be listed in *Index Kewensis* as new species attributed to Hill.

Article 33.2 of *International code . . . Berlin 1987* requires that a full and direct reference be given in valid publication of a new combination after 1 January 1953, surely with the implication that before 1953 such a reference is not necessary. All the circumstantial evidence, and in particular the coincidence of all the epithets *officinalis*, *acaulis*, *elatior* and *farinosa* under *Primula* in the relevant publications of both Linnaeus and Hill, points to the fact that Hill was merely taking up the earlier Linnaean epithets and was not describing new taxa. The coincidence of the epithets themselves refers us back to Linnaeus, which is confirmed (if it were necessary) by Hill's direct reference to Linnaeus in his introduction, as noted above. Publication of the combination by Hill, not Linnaeus, was accepted in the original volume of *Index Kewensis* (1895) and by generations of botanists since. It is comparable with the combination *Helianthemum nummularium* (L.) Miller, *Gard. Dict.* (ed. 8), [sub]. *Helianthemum* no. 12 (1768), also published with a passing reference to Linnaeus himself in the introduction to the book, and with a reference under the generic name, but without any reference to the basionym *Cistus nummularius* L., *Sp. Pl.* 1: 527 (1753), and nonetheless universally accepted as a new combination at the present time. To maintain today, when the need for nomenclatural stability is being much discussed, that such names should be treated as newly described species, with consequent new typifications, rather than new combinations, would not only be highly undesirable, it would be contrary to the *International code*. We are happy to conclude that the correct name for the Oxlip should be maintained as follows:

- P. elatior*** (L.) Hill, *Veg. Syst.* 8: 25 (1765).
P. veris var. *elatior* L., *Sp. Pl.* 1: 143 (1753).

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