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Dactylorhiza* ×*salteri*: the correct name for *Dactylorhiza praetermissa* × *D. purpurella

Keywords

Orchidaceae; *Dactylorhiza praetermissa* × *D. purpurella*; *Dactylorhiza* ×*insignis*; *Dactylorhiza* ×*salteri*; *Orchis latifolia*; *Orchis latifolia* × *O. purpurella*; *Orchis praetermissa* × *O. purpurella*; *Orchis* ×*insignis*; *Orchis* ×*salteri*; Aberystwyth, Arran, Great Britain.

Summary

Lewis, L. (2020): *Dactylorhiza* ×*salteri*: the correct name for *Dactylorhiza praetermissa* × *D. purpurella*.- J. Eur. Orch. 52 (2-4): 461-470.

The generally accepted name for *Dactylorhiza praetermissa* × *D. purpurella* (syn. *Orchis praetermissa* × *O. purpurella*) is *Dactylorhiza* ×*insignis* based on the publication of that nothospecific binomial for that hybrid formula by Soó (1960) designating *Orchis* ×*insignis* as basionym. As that publication was not valid under the ICBN, Soó republished the name in 1962, again designating *O.* ×*insignis* as basionym but this time without specifying the hybrid formula. The basionym *O. ×insignis* was published for *O. latifolia* × *O. purpurella* by T. Stephenson & T.A. Stephenson (1922). The identity of *O. latifolia* is unclear but the Stephensons expressly stated that they regarded it as a different taxon from *O. praetermissa*. Consistent with this, the *O. ×insignis* they described and illustrated were definitely not *O. praetermissa* × *O. purpurella*. In addition, the name *O. ×salteri* was later published for the hybrid formula *O. praetermissa* × *O. purpurella* by T. Stephenson (1942) and renamed *D. ×salteri* by Soó (1968). Accordingly, *Dactylorhiza* ×*salteri*, basionym *O. ×salteri* is the correct name for *D. praetermissa* × *D. purpurella* (syn. *O. praetermissa* × *O. purpurella*).

Zusammenfassung

Lewis, L. (2020): *Dactylorhiza* ×*salteri*: der korrekte Name für *Dactylorhiza praetermissa* × *D. purpurella*.- J. Eur. Orch. 52 (2-4): 461-470.

Der allgemein akzeptierte Name für *Dactylorhiza praetermissa* × *D. purpurella* (syn. *Orchis praetermissa* × *O. purpurella*) ist *Dactylorhiza* × *insignis*, basierend auf der Veröffentlichung dieses nothospezifischen Binoms für diese Hybridformel von Soó (1960), mit der Benennung von *Orchis* × *insignis* als Basionym. Da diese Veröffentlichung gemäß ICBN nicht gültig war, veröffentlichte Soó den Namen 1962 erneut und bezeichnete *O. ×insignis* erneut als Basionym, diesmal jedoch ohne Angabe der Hybridformel. Das Basionym *O. ×insignis* wurde für *O. latifolia* × *O. purpurella* von T. Stephenson & T.A. Stephenson (1922) veröffentlicht. Die Identität von *O. latifolia* ist unklar, aber die Stephensons erklärten ausdrücklich, dass sie es als ein anderes Taxon als *O. praetermissa* betrachteten. In Übereinstimmung damit waren die von ihnen beschriebenen und illustrierten *O. ×insignis* definitiv nicht *O. praetermissa* × *O. purpurella*. Zusätzlich wurde der Name *O. ×salteri* später für die Hybridformel *O. praetermissa* × *O. purpurella* von T. Stephenson (1942) veröffentlicht und von Soó (1968) in *D. ×salteri* umbenannt. Dementsprechend ist *Dactylorhiza ×salteri*, Basionym *O. ×salteri*, der korrekte Name für *D. praetermissa* × *D. purpurella* (syn. *O. praetermissa* × *O. purpurella*).

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1. Introduction

Dactylorhiza praetermissa × *D. purpurella* (syn. *Orchis praetermissa* × *O. purpurella*) is a relatively rare hybrid. This is because the distribution area of *D. purpurella* is predominately northern (BSBI 2020b) – hence the English common name Northern Marsh-orchid, whereas that of *D. praetermissa* is more southerly (BSBI 2020a) – hence its common name Southern Marsh-orchid. As a result, the hybrid is restricted to the few areas where both hybrids grow in association, that is central and north-west England, North Wales and Kenfig National Nature Reserve, South Wales. An example of the hybrid from a site Dockacres, Cumbria, England is illustrated in Fig. 2. A specimen of *D. praetermissa* from the same site is illustrated in Fig. 1. *D. purpurella* also grows at the same site but was not photographed as it is so common there; the plant illustrated in Fig. 3 is therefore from a different location. At Kenfig in 2020, a specimen of *D. praetermissa* × *D. purpurella* (Figs. 4 and 5) was found about 2 m away from specimens of the two parent species growing about 20 cm apart (Fig. 6).



Fig. 1: *Dactylorhiza praetermissa*, Dockacres, Lancashire, England, 20.6.2009, photo A. Gendle.



Fig. 2: *D. praetermissa* × *D. purpurella* (= *D. ×salteri*), Dockacres, Lancashire, England, 25.6.2009, photo A. Gendle.



Fig. 3: *Dactylorhiza purpurella*, Sunbiggin, Cumbria, England, 21.6.2010, photo A. Gendle.



Fig. 4: *D. praetermissa* × *D. purpurella* (= *D. ×salteri*), Kenfig Nat. Nature Res., South Wales, 23.06.2020, photo L.Lewis.



Fig. 5: *D. praetermissa* × *D. purpurella* (= *D. ×salteri*), Kenfig National Nature Reserve, South Wales, 23.06.2020, photo L. Lewis.



Fig. 6: *Dactylorhiza purpurella* (left) and *D. praetermissa* (right), Kenfig National Nature Reserve, South Wales, 23.6.2020, photo L. Lewis.

The generally accepted nothospecific binomial for this hybrid is *Dactylorhiza* × *insignis*, for example as listed by KEW (2020) and ECCARIUS (2016: 588). This acceptance is based on the first publication of that name by SOÓ (1960: 365) as follows:

“*D. praetermissa* × *purpurella*: *D. insignis*. Syn.: *O. insignis* Stephenson (1922) pro *latifolia* × *purpurella*?) Br”.

However, the name *D. ×insignis* and some other new names and nomenclatural combinations in that 1960 publication were not validly published because the basionym page numbers were not cited as required by ICN Art. 41.5 (HUNT & SUMMERHAYES 1965: 129). After being informed of this error, SOÓ republished the name as follows:

“× *D. insignis* Soó l. c. 354. *O. insignis* Steph. Journ. Bot. 1922. 33”.

Accordingly, unlike the earlier invalid publication, this valid publication of the name *D. ×insignis* only designated the basionym. It did not identify the hybrid as *D. praetermissa* × *D. purpurella* (SOÓ 1962: 10).

The basionym *Orchis ×insignis* was published for the hybrid *Orchis latifolia* × *O. purpurella* STEPHENSON & STEPHENSON (1922: 33) as follows [with explanatory additions by author LL]:

“1. × ORCHIS INSIGNIS (*O. purpurella* × *O. latifolia* (L.).

(A). At Aberystwyth [on the west coast of mid-Wales] *O. purpurella* form A appears to cross with a small form of *O. latifolia*. In t. 556, above referred to, figs. 9 and 13 give the parents and fig. 11 the cross [= hybrid]. It is, however, impossible to reproduce the full colour values, and *O. purpurella* should be somewhat darker and brighter. The hybrid has about half the colour-saturation of this parent, and is otherwise intermediate. Most plants are tall, a fair number taller than either parent, but some are dwarf. Most have leaves with large blotches, and sometimes rings, but a few have the small dots of *O. purpurella*, and some have no spots at all; but, with all these vegetative variations, the flowers are quite alike. These forms all grow together in the same patch of ground, so the environment can hardly account for the variations. They are most handsome plants, which would be set down as an unusual type of *O. latifolia* but for the obvious influence of *O. purpurella*.

(B) In Arran [an island off the west coast of Scotland], form B of *O. purpurella* also crosses with *O. latifolia*, producing plants of almost identical flower-type, both as to shape, colour, and markings, with those at Aberystwyth. These are found in many stations near the shore in fair numbers. The only difference as to foliage-type is that we have noted very few, if any, dwarfs, or leaves other than with large blotches, which were mostly dark, though sometimes faint”.

Plate t. 556 was published in an earlier paper by STEPHENSON & STEPHENSON (1920b); Figs. 5, 9, 11 and 13 of that Plate are reproduced here in Fig. 7.



Fig. 7. Reproduction of Figures 5 (*Orchis praetermissa*), 9 (*Orchis purpurella*), 11 (*Orchis ×insignis*) and 13 (*Orchis latifolia*) from Plate t. 556, T. STEPHENSON & T.A. STEPHENSON (1920b).

Orchis latifolia was named and described from the Swedish island of Öland by LINNEAEUS (1753: 941). It was later renamed *Dactylorhiza latifolia* by SOÓ (1962: 4), sometimes cited erroneously as *D. latifolia* (l.) H. Baumann & Künkele (PEDERSEN 2000: 299). Unfortunately, the identity of this taxon is unclear. As summarised by VERMEULEN (1976: 371): “The synonyms which were used for *O. latifolia* by Linnaeus are now named *Dactylorhiza incarnata* and *D. praetermissa*. The *latifolia* specimen in Linnaeus’ herbarium is in a bad state and it misses its tubers. As far as can be judged this specimen is neither *sambucina* nor *majalis* and possibly a hybrid of *O. incarnata*. There is no element which indicates to *O. majalis*, a species missing from Öland and in the neighbourhood of Stockholm and Uppsala where Linnaeus lived. The name *O. latifolia* L., and also its synonym *Dactylorhiza latifolia* Soó must be rejected because it has widely and persistently been used for a taxon (= *O. majalis*) not including its type.”

A proposal by VERMEULEN (1977: 600) to reject the name *Orchis latifolia* on the above ground under ICBN Art. 69 (Leningrad Code) was not supported (BRUMMITT 1980: 493). However, a subsequent proposal to reject the name by PEDERSEN (l.c.) was accepted and the name *Orchis latifolia* (\equiv *Dactylorhiza latifolia*) is therefore now included in the list of Suppressed Names in ICN Appendix V, section E. Spermatophytes, annotated “Typus: non designatus”. As stated in the introductory text to Appendix V: “all combinations based on a rejected name are also ruled as rejected under Art. 56 and none is to be used.” However, as also explained “The rejected names are neither illegitimate nor do they cease to be validly published (Art. 56 Note 1).” Accordingly, as explained by N. Turland (pers. comm. 2020): “Rejection of the name of one of the putative parents has no effect on the hybrid name *Orchis* \times *insignis* nor on any later names of which *O.* \times *insignis* is the basionym of replaced synonym.” Accordingly, rejection of the name *O. latifolia* has also no effect on the name *D.* \times *insignis*.

2. Discussion

The nothospecific name *Dactylorhiza* \times *insignis* was published by SOÓ (1962: 10) who designated *Orchis* \times *insignis* as basionym without otherwise identifying the parent taxa. There are three reasons for considering that *O.* \times *insignis* (= *O. latifolia* \times *O. purpurella*) was not *O. praetermissa* \times *O. purpurella* (syn. *Dactylorhiza praetermissa* \times *D. purpurella*).

First, STEPHENSON & STEPHENSON (1921: 2) expressly stated that they regarded *Orchis praetermissa* as “certainly a distinct species from *Orchis latifolia*” (see

also below). It follows that they also regarded *O. ×insignis* [= *O. latifolia* × *O. purpurella*] as certainly a distinct nothospecies from *O. praetermissa* × *O. purpurella*.

Second, as reported above, STEPHENSON & STEPHENSON (1922: 33) described *Orchis ×insignis* from two sites, namely (A) from Aberystwyth on the west coast of mid-Wales and (B) from Arran, an island off the west coast of Scotland. The Aberystwyth site was described in another earlier paper (STEPHENSON & STEPHENSON 1920a: 165) as a very old hill-pasture where *O. purpurella* grew with several other species of orchids, including *O. praetermissa*, *O. latifolia*, *O. ericetorum* (syn. *O. maculata* subsp. *ericetorum*) and *O. fuchsii*.

Since both parents were reported from the Aberystwyth site (A), it was possible that the *Orchis ×insignis* growing there were *O. praetermissa* × *O. purpurella*. However, it is clear from the illustrations of single flowers of orchids from this site published by STEPHENSON & STEPHENSON (1920b: Plate t. 556) that this was not the case. The relevant illustrations from that Plate are reproduced in Fig. 7 of the present paper which shows the hybrid (Fig. 11), the *O. purpurella* parent (Fig. 9), the *O. latifolia* parent (Fig. 13) and, for comparison with the latter, *O. praetermissa* (Fig. 5), all from the Aberystwyth site (STEPHENSON & STEPHENSON 1920b: 260-261; 1922: 33).

When consulted, R. Bateman (pers. comm. 2020) regretted the absence of lateral views of the flowers showing the all-important spur, but nonetheless argued that Fig. 9 definitely illustrates *O. purpurella* (syn. *D. purpurella*) and also that the flower shown in Fig. 11 is a credible hybrid between the flowers illustrated in Figs. 9 and 13. However, consistent with the opinion of T. Stephenson & T.A. Stephenson (1921: 2) referred to above, the *O. latifolia* parent illustrated in Fig. 13 is definitely not *O. praetermissa* (syn. *D. praetermissa*). R. Bateman (pers. comm. 2020) expressed confidence that Fig. 13 illustrates a flower of a Spotted-orchid (*O. maculata* s.l., syn. *D. maculata* s.l.), but argued that the oblique angle of the labellum and inability to visualise the spur prevents reliable distinction between *D. maculata* s.s. and *D. fuchsii*.

Thus, the *O. ×insignis* illustrated in Fig. 11 is definitely not *O. praetermissa* × *O. purpurella*. Instead, based on the flower illustrated in Fig. 13, it is *O. fuchsii* × *O. purpurella* or, more likely, *O. maculata* × *O. purpurella*.

Site (B) on Arran was not described by the Stephensons. However, it was stated that “*O. praetermissa* is entirely absent and *O. pulchella* takes its place,

examples of *O. latifolia* are to be found” (STEPHENSON & STEPHENSON 1922: 35). This reported absence of *O. praetermissa* (syn. *D. praetermissa*) from Arran is not surprising since it has never been recorded anywhere in western Scotland (BSBI 2020a). Accordingly, the *O. ×insignis* population reported at site (B) on Arran could not have been *O. praetermissa* × *O. purpurella*.

The third reason for considering that *O. ×insignis* was not *O. praetermissa* × *O. purpurella* was that T. Stephenson (1942: 104) subsequently published the name *O. ×salteri* for that hybrid. He clearly would not have done so if he was of the opinion that he had already co-authored the publication of the name *O. ×insignis* for the same hybrid. It is also clear that Soó subsequently accepted that *D. ×salteri* was not *D. praetermissa* × *D. purpurella* since he later published the new name *D. ×salteri* for that hybrid as follows:

“*Dactylorhiza* × *salteri* (Steph.) Soó comb. nov.;
Basionym: *Orchis* × *salteri* Steph. In J. Bot. (London) 80: 164. 1942; =
D. purpurella × *D. praetermissa*” (Soó 1968: 18).

The page number of this cited basionym reference is wrongly given as “164” instead of “104”. However, as provided in ICN Art. 41.6, such errors do not preclude valid publication of a new combination. This publication of the name *D. ×salteri* was therefore valid despite that error.

3. Conclusion

The above reasons establish conclusively that *Orchis ×insignis* was not *O. praetermissa* × *O. purpurella* (syn. *D. praetermissa* × *D. purpurella*). It therefore follows that *D. ×insignis* is not *D. praetermissa* × *D. purpurella*.

Accordingly, in the absence of any other validly published nothospecific binomial, the correct name for *Dactylorhiza praetermissa* × *D. purpurella* (syn. *O. praetermissa* × *O. purpurella*) is:

Dactylorhiza × *salteri* (T. Stephenson) Soó, Jahresber. Naturwiss. Vereins
Wuppertal 21-22: 18 (1968).
Basionym: *Orchis* × *salteri* T. Stephenson, J. Bot. 80: 104 (1942).

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