

Another interesting snippet from Chris giving the background and details of the extant varieties and cv.'s of *Dryopteris affinis* and *Dryopteris x complexa*. If you want to use the correct taxonomic names for these 'monstrosities' we grow in our gardens, here they are!!

I knew I once knew something about that name Windermere, and your finding it is also a *D. affinis* agg. thing put me onto it. Here is an extract from the big monograph on *D. affinis* that I did about 15-20 years ago, but rather gave up on for various reasons (though I'm now very much onto it again, and with Ken Trewren, who has done a huge lot of work on the group). I did a section on each different level of variation, as I saw it, from minor forms up to subspecies - and nowadays it will be up to species, too. I was planning to illustrate them all, but no need, I think, as Martin Rickard did it in his super book, which we discussed together - though I think we still hoped to make a special booklet on *D. filix-mas* agg. cultivars some day, but then we all only get one life and nowadays it has its non-pteridological diversions, too! Anyway, I mentioned 'Windermere' in the section on cultivars/abnormal ties, part of which I put here (Ghosh, sorry, I see it's a bit long, unlike most modern papers, which I reckon are usually about as interesting for detail as scaffolding in a cold desert!):

"It is of use to attempt to place the monstrosities into their modern botanical species or subspecies, especially in complexes of related species, though this can be difficult and some cultivars can be quite misleading as almost any parameters of morphology can be altered in them, including those that are diagnostic in normal plants. In *D. affinis* a quite large number of monstrosities has been collected in the wild or raised from spores of other monstrosities in gardens, though many of them were originally (and often still are) attributed to *D. filix-mas* in a wide sense. A number have been separated and assigned to *D. affinis* (sub. *Lastrea pseudomas* Wollaston) by Druery (1910), but none had been assigned to the subspecies until investigated by Fraser-Jenkins (summarised by Rickard 2000). However it has proved to be quite easy to place most of the cultivars of *D. affinis* from their morphology. This has been confirmed by checking the diagnostic difference in spore-size and regularity between subsp. *affinis* and the other subspecies, in cases where the pinnules have been altered beyond recognition. Several cultivars were also found to belong to the hybrid *D. x complexa*, especially some of those raised in gardens from spore-sowings and presumed to have arisen from chance hybridisation in the prothallial cultures, which are seldom completely free of contaminants. Some twenty cultivars of *D. affinis* and its hybrid known to the author to be still in existence in gardens today (many formerly cultivated by him at Bridgend) are listed here in their subspecies. Their survival in cultivation over nearly one and a half centuries in some cases represents a remarkable tribute to both the "Victorian Fern Craze" (see Allen 1969), with the diligent if over-keen collectors and propagators of last century and fine gardens, and to the care of the subsequent generations of British fern-gardeners. Many were lost to horticulture during the Second World War, when many gardens had to be used for vegetables, but some important and fine cultivars have survived and been kept going up to the present day. With the rise in popularity of horticulture over the last twenty years or so several new ones have also been discovered or raised, including in the large commercial centres in Holland. But it must be said that some of them have been unfortunately careless in their nomenclature and have renamed cultivars already known and named in British gardens, which has proved to be very difficult to control as some of the big firms such as Royal Lemkas are almost obsessively secretive and usually prevent

anyone at all from having access when the opportunity could be taken to check their nomenclature (but see Rickard 19***). Although a few noticeable monstrosities also occur either wild or cultivated on the continent, the existence of so many British ones and their survival in our gardens is a unique and somewhat unusual situation (as pointed out by Druery 1910). But in Germany etc. most such plants (e.g. the large collection of Dr. E. Rosenstock of Gotha in eastern Germany, sent to Berlin Botanic Garden and a number of others throughout Europe) were lost [***? did Rosenstock ever publish anything on his varieties? If so, cite*****]. This was mainly as a result of the more severe effects there of the Second World War (see Alston 1946). From experience in the field and herbaria, where such plants are often represented, it is confirmed here that they either do not seem to occur in nature on quite such a large scale anywhere else in the world, or have not been so diligently collected and appreciated outside Britain.

Cultivars of *D. affinis* known to survive in gardens are:

1. *D. affinis* subsp. *affinis* var. *affinis* 'Cristata' (T. Moore & Houlston 1851), originally found wild at Caerclough Estate, Charleston, near St. Austell, Cornwall by 1850, and other plants found near Ilfracombe, Devon. Often known in gardens as 'Cristata the King', though incorrectly so, as this was only a descriptive remark by Druery (1910: 156), who said it was often termed the "King of the Male Ferns", perhaps following Sim's (1859) description of it as forming a noble mass of fronds. All authors agree that this is one of the finest fern cultivars of all, with regular heavy creasing (multiple bifurcations) at the pinna-tips and frond-apex, forming a fringe around the semi-erect fronds. Interestingly, it was the second apomictic fern discovered (de Bary 1878, and see Manton 1950) and was later investigated by Döpp (1939), who found it to be diploid apomict.

2. *D. affinis* subsp. *affinis* var. *affinis* 'Trippett Windermere' cv. nov. (Fraser-Jenkins 2004, ined.), new cultivar. It was being grown under the name 'Cristata Windermere' [ined.] at Sizergh Castle, Kendal, Cumbria, in 1986. It was originally found near Bowness, Cumbria by Ron Trippett of Leeds. It is generally similar to 'Cristata', but has less tight and regular creasing and a more lax frond. [***? cite type etc.?***]

3. *D. affinis* subsp. *affinis* var. *affinis* 'Cristata angustata' (T. Moore 1859/Sim 1859), originally selected by R. Sim from cultivated sporelings raised from 'Cristata' given him by Wollaston about 1854. Cv. 'Cristata' grown from spores sometimes varies towards narrower forms but the present plant is spectacularly narrow with the same creasing at the margins and is also slightly dwarfed.

4. *D. affinis* subsp. *affinis* var. *affinis* 'Crispa cristata angustata' (Druery 1910), originally raised by W.H. Lang's nursery at Kircaldy, Perthshire, probably from spores of 'Cristata angustata'. It is a very dwarfed, narrow fronded cultivar, with the pinna-apices and elongated frond-apex cristate, somewhat similar to 'Cristata angustata', but smaller and more crowded in all its parts and with crispy-undulated pinnae.

5. *D. affinis* subsp. *affinis* var. *affinis* 'Polydactyla Mapplebeck' (Wollaston ex Phillips 1899, Wollaston ex Druery 1910), one of many 'polydactyla' cultivars, of which Moore's original one (of 1857) is a cultivar of *D. filix-mas*. First found in 1862 in Westmoreland (now Cumbria) by J.E. Mapplebeck. Rickard (2000) illustrated a plant

he obtained under this name from Kaye's nursery in Lancashire, but his plants look very similar indeed to 'Polydactyla Wills' and perhaps do not quite match Druery's photographic impression. Herbarium-material in Moore's herbarium should be examined in order to be sure of the identity of this cultivar. Druery cited the name 'Mapplebeckii' (T. Moore) as a synonym, but if published [***?check***] this would presumably be the earliest name and must have been given in order to distinguish it from Moore's 'Polydactyla' . This cultivar is like a fairly normal subsp. *affinis* but has loose, multiple bifurcations towards the pinna-tips and at the frond-apices, which fork and then bear a small crest at the tip of each fork. 'Polydactyla' cultivars are a step down from 'Cristata' in terms of degree of abnormality and are also not as regular in their characteristics.

6. *D. affinis* subsp. *affinis* 'Polydactyla Wills' (Druery 1910), found wild in south Devon "a few years later" than 1862 by J. Wills. Of botanical interest chiefly because it was first investigated by Farmer & Digby (1907), who obtained a very approximate chromosome count for it and described some early details of apomixis, later made more exact by Döpp (1939) and finalised by Manton (1950), all studying this cultivar. It is probably due mostly to Manton's cultivation of this plant, obtained from Prof. W.H. Lang at Manchester University and then cultivated at Leeds, that it still survives today. The plants investigated by Farmer & Digby and Döpp were also obtained from the same source (Manton pers. comm., c. 19***). The normal parts of the pinnae are typical of var. *affinis* and only the cristate, divided pinna- and frond-apices are different. The difference from 'Polydactyla Mapplebeck' is very small and the two evidently belong to one Cultivar Group (Polydactyla) ; 'P. Wills' is perhaps more compact than 'P. Mapplebeck'.

7. *D. affinis* subsp. *affinis* var. *affinis* 'Resendeana' [***? valid, in Latin?***](de Rezende-Pinto 1969) Fras.-Jenk. (2004), discovered at Valongo, Portugal, by Prof. M.C. de Rezende-Pinto in 1944 and named after his mother, though first described as a forma *valongensis* de Rezende-Pinto. Although the cultivar epithet is in Latin, it is to be retained under the Horticultural Code (1995: Art. 17.3) as the name was formerly published under the Botanical Code. This cultivar is close to 'Polydactyla Wills', but perhaps slightly narrower, towards 'Cristata'. The locality contained several species and other fern-cultivars which may have escaped from past cultivation and it is quite possible that 'Resendeana' may have originated in Britain and might also have been named there previously before being cultivated in Portugal. But it does not quite seem to match any other cultivar yet known to the author. Interestingly de Rezende-Pinto independently made observations on the apparently new pattern of cell-division leading to sporogenesis in this plant without realising he was redescribing some aspects of apogamy, as outlined by Döpp and Manton many years previously, and was surprised to hear of this when the present author met him in Porto in 19***. The plant is cultivated outside the Botany Dept., University of Porto, and by J.I. Lintner's nursery, Nieder-Ofleiden, Marburg in 1987 and original stock was given by the author to Kyre Park, though since lost unless fortunately maintained by some customer of Rickard's Hardy Ferns.

8. *D. affinis* subsp. *affinis* var. *affinis* 'Crispa' (Sim 1859), found in Wales by J.W. Salter in the late 1850s and distributed from spore-sowings by Sim's nursery. It is an attractively dwarfed plant with a crispy, brittle texture and dark-green fronds and has recently been cultivated by Lemkes (Lemkes en Zonen B.V., Koninklijk

Tuinbouwbedrijf, Alphen a/d Rijn) on the Continent, as well as occasionally in British gardens.

9. *D. affinis* subsp. *affinis* var. *affinis* 'Crispa gracilis' (Phillips 1899, Druery 1910), occurred spontaneously in a spore-sowing from 'Crispa' grown by Dr. Lyell in 1866. It is closely similar to 'Crispa', but smaller, narrower and more compact. It is rather more frequently grown in British gardens than 'Crispa' and has also been disseminated by Kaye's nursery (see Kaye 1968) as 'Crispa congesta'.

10. *D. affinis* subsp. *affinis* var. *affinis* 'Pinderi' (Moore 1856), discovered near Elterwater, Cumbria by the Rev. G. Pinder in 1855. This is a remarkably narrow-fronded cultivar with erect, linear fronds and the pinnae only shallowly lobed and must have been a great excitement for the Reverend gentleman to discover. It has sometimes been confused in gardens with *D. x complexa* nothosubsp. *complexa* 'Stablerii', but can be confirmed from its good spores if in doubt.

11. *D. affinis* subsp. *borreri* 'Furcans' (T. Moore 1859), first found near Huddersfield, Yorkshire, by T. Stansfield in the 1850s, and later in Surrey. It resurfaced from Royal Lemkes Nursery, Holland, in the 1980s under a new name 'Terrilis furcata', but was quite possibly from the same origin, as was the 'Furcata' at J.I. Lintner's nursery, Nieder-Ofleiden, Marburg in 1987. The pinna-apices are usually forked, rarely more than once, with divergent tips, as can be the frond-apex, but in young plants only a few pinnae fork. In other respects it is a normal subsp. *borreri*.

12. *D. affinis* subsp. *borreri* 'Polydactyla Dadds' (Phillips 1899, Druery 1910), grown by J. Dadds, at Ilfracombe, Devon, in 1872, from spores of 'Furcans', from which it is spectacularly different, presumably by further mutation. It is a typical 'Polydactyla', but laxer and less deeply forked than in 'Polydactyla Wills' and has a wider lamina-base. The normal segments in the lower and mid parts of the pinnae are rather longer and narrower than in normal subsp. *borreri* and, though less lobed, indicate that it belongs to subsp. *borreri*. The botanical epithet var. *polydactyla* was preoccupied by Moore's variety (of *D. filix-mas*), and 'Polydactyla Dadds' was not published properly as a single word (Dadds was given as the finder, rather than part of a name), but can be used as a cultivar name.

13. *D. affinis* subsp. *borreri* 'Schofieldii' (T. Moore 1859, Sim 1859), found near Buxton, Derbyshire, by J. Schofield prior to 1859 and brought into the horticultural trade by Stansfield's nursery, then at Todmorden, Yorkshire. It is a dwarf plant with a once-forked stipe and upper lamina. This cultivar is very nearly extinct and as far as is known to the author survives only in the garden of Bud Lyle, Grange Nurseries, Aloo, Clackmannanshire, Scotland, where he was kindly shown a small, delicate, but typically characteristic plant of it in Sept. 1984, which was of known descent from the original finding.

14. *D. affinis* subsp. *borreri* 'Revolvans' (Phillips 1899, Wollaston ex Druery 1910), found in a garden fernery at Iffotsholme Farm, Troutbeck, Cumbria, by F. Clowes in 1868, having been collected locally. It has been preserved mainly due to its propagation and sale by Kaye's nursery. It is not much different from normal subsp. *borreri* and when pressed can be indistinguishable, but the young fronds have a distinctive tubular shape due to the pinnae curving around to meet their opposite

number beneath the frond-axis. The fronds are also markedly erect, so when young are rather outstanding, though adult fronds become flatter.

15. *D. x complexa* nothosubsp. *complexa* 'Stablerii' (Drury 1910). This cultivar appeared spontaneously among sporelings from a sowing of the narrow-fronded *D. filix-mas* 'Barnesii' (Drury), with its incised sides to the pinnae, at H. Stansfield's nursery at Sale, Reading, Berkshire. It can be deduced now that the other parent can only have been *D. affinis* subsp. *affinis* presumably var. *affinis*, whose stray spore must have arrived by chance and the prothallus cross-fertilized. The fronds are very narrow and are generally similar to *D. affinis* subsp. *affinis* 'Pinderi', which which it has sometimes been confused, but are considerably taller and rather wider. The pinnae are more deeply, pinnately lobed, the pinnules are longer, with more rounded apices and characteristically lobed sides and the indusia are thinner and lift and shrivel considerably on ripening. A plant obtained by the late Prof. T. Reichstein, at Basel, from Dr. W. Gätzi (originally from Göttingen Botanic Garden), but mistakenly under the name *D. affinis* 'Pinderi', was found to be tetraploid, with approximately one set of bivalents and two sets of univalents in the 16-s.m.c. sporangia (see below, sub *D. x complexa*). Its spores were mostly abortive, with some very large, apparently good ones present and it was thus re-identified by the present author to be a cultivar of *D. x complexa* and was also identified by him as being cv. 'Stablerii' and not 'Pinderi'.
[***? check spelling, stablerii?*** *]

16. *D. x complexa* nothosubsp. *complexa* 'Grandiceps Askew' (Askew c. 1955, Kaye 1968). It is almost sure that Askew raised this cultivar as a hybrid with *D. filix-mas* from spores of *D. affinis* subsp. *affinis* var. *affinis* 'Cristata'. It is a very tall plant with rather weak "polydactylous" cresting of the pinna-apices and frond-apices, exactly as would be expected from such a mixture; the normal pinnules are typical of the hybrid. The spores in a plant obtained by the author are abortive with some very large, apparently good ones also present, as in normal plants of the hybrid. This plant was one of quite a number of F. Askew's surviving ferns at his garden at Grange, in Borrowdale, Cumbria, given to the author by Mrs. Askew in Sept. 1986. Plants cultivated by the author at Bridgend went to Rickard's Hardy Ferns nursery at Kyre Park, Shropshire. It has also been disseminated from Kaye's nursery and was being grown by Prof. R. Maatsch at Herrenhausen Botanic Garden, Hanover, in 1987, though unlabelled and not mentioned in his book (Maatsch 1980).

17. *D. x complexa* nothosubsp. *complexa* 'Atkinson's decomposita' cv. nov. (Fraser-Jenkins 2004), new cultivar. This is a rather stiff-fronded plant with forked pinna- and frond-apices, decomposita, narrowly lobed segments, slightly thick indusia, which then shrivel on ripening, and dense pale scales on the stipe, becoming all narrow, but still dense, on the rachis. The spores are nearly all abortive but with some very large, apparently good ones present. It was almost certainly raised from *D. affinis* subsp. *affinis* var. *affinis* 'Polydactyla Wills' hybridised with *D. filix-mas* 'Decomposita' (Phillips/Drury), by F. Atkinson, of Newley Bridge, Staveley, Lancashire. An offset of a clump surviving from his collection was kindly given to the author by the late R. Kaye at Silverdale in Sept. 1986, under an unpublished name of Kaye's "Decomposita polydactyla", which cannot be used now. It was subsequently passed from Bridgend to Kyre Park, but met its demise there later unless preserved by one of the nursery's customers.

18. *D. x complexa* nothosubsp. probably *critica* 'Ramosissima' (Phillips 1899, Moore ex Druery 1910), often listed as "Ramosissima Wright" after its finder, but in error. It was discovered in north Wales by R. Wright of Stone, Staffordshire in 1864. The stipe is forked several times above the base and the frond-apices are cristate. It produces sori which do not ripen fully, but the present author has found that while most sporangia do not develop, a few of the most mature ones contain abortive spores. Although this could be for other reasons, it is likely that this indicates the plant's belonging to *D. x complexa* and the matt laminar texture, acute teeth and pale stipe-scales tend to suggest nothosubsp. *critica* more than anything else. However it is not certain that it is not *D. affinis* subsp. *borreri*; only a mitotic chromosome-count could resolve its true identity for sure. As the segments are crowded and reduced in size it is difficult to guess its identity from the normal diagnostic characteristics of pinnule-shape etc. Less branched and crested plants of this, partly reverted to normal, were grown by the late R. Kaye at his Silverdale, Lancashire, nursery and listed by him (Kaye 1968) as *D. borreri* 'Ramosum furcillans', again having the poorly developing sori.

19. *D. x complexa* nothosubsp. *critica* 'Abasipinnula' (E.J. Lowe 1867). This is a very minor cultivar in which the bases of the lowest few pinnules of lower and mid pinnae are narrowed and cuneate. Plants survive from Lowe's old collection in his garden at Shire Newton Hall, near Chepstow, Monmouthshire and were found by the present author in 1986, when he was kindly allowed to cultivate an offset by the Knight family. The spores are highly abortive.

Many other cultivars listed and figured in 19th. or early 20th. Century literature have been lost from cultivation during the two World Wars, and are now known only from herbarium-specimens. A programme of further research is required in the Moore herbarium at Kew (and in Paris for Wollaston's collections etc., and also Berlin for Rosenstock's) to reveal further details of first collections, localities and cultivar groups before a comprehensive account of extant *Dryopteris* cultivars can be finalised. Subsequent to Moore's more botanically correct accounts, several authors (e.g. especially Phillips 1899, partly Druery 1910 and later works following them) have added the name of the finder as if either a second part of the name, or the authority for the name (rather than the plant). This can be misleading in terms of attribution of the name when it has been published in the form of a botanical name, but is acceptable as a cultivar name."

Hope this might be of use to cultivologists - and I'd be interested to know of any other cvs. of the *D. affinis* agg., as

obviously this won't be complete. Incidentally there is a small body of literature about how these cultivars (botanical 'Monstrosities') arise - it seems most are genetic, as found by Dr. Andersson-Koto

years ago. I have some information on that, too.

Cheers,

Chris F.-J.