Plant Images / C.Grey-Wilson

Arum italicum is grown for its colourful fruit and selections with attractively marbled leaves. However, plants in cultivation represent a small subset of its considerable wild variation

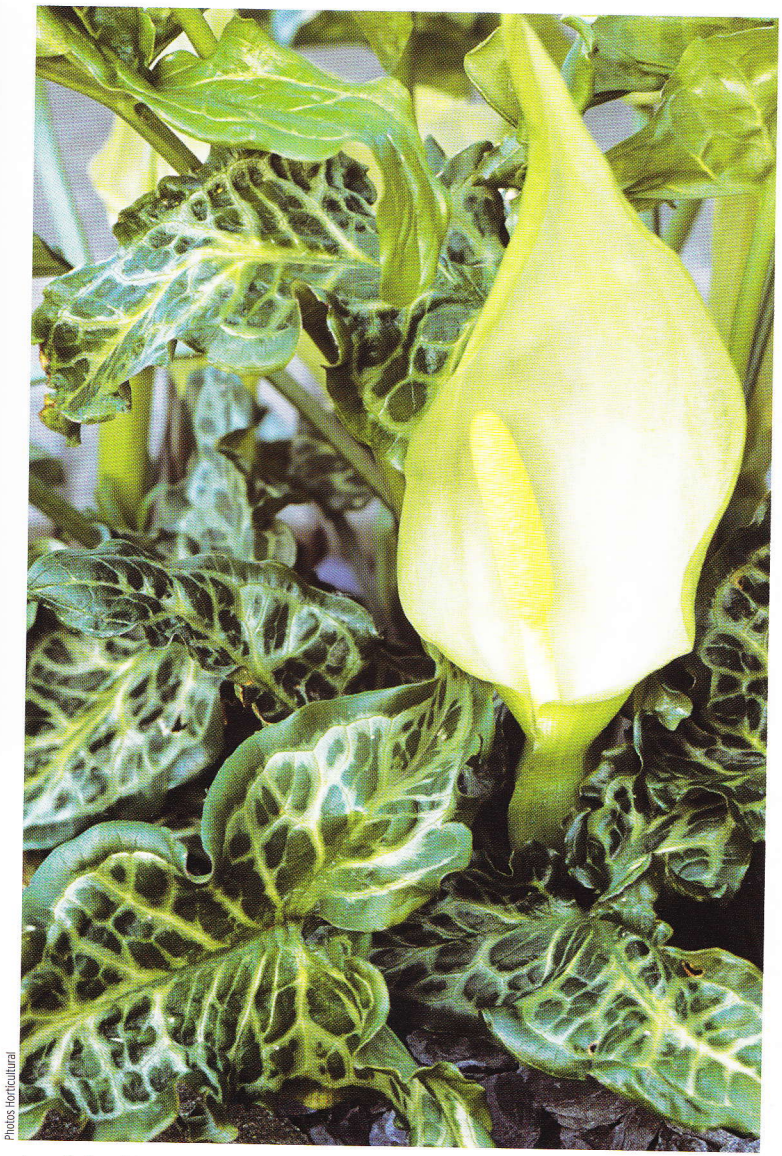
New observations on *Arum italicum*

PETER BOYCE describes how *Arum italicum* was previously divided into two major subspecies, one of which is widely cultivated. He has now undertaken further study of wild populations and has discovered that the boundaries are blurred and the previous distinctions are not significant

IN THE 13 years that have elapsed since publication of *The Genus Arum* (Boyce 1993) I have had the opportunity to examine in habitat a very great number of plants of two of the three western European subspecies of *A. italicum*, namely subsp. *italicum* and subsp. *neglectum*, with the result that I have come to the conclusion that the two are not after all separable and fall under the one name *A. italicum* subsp. *italicum*.

Leaf shape

The most easily observable character I formerly used to distinguish subsp. *italicum* and subsp. *neglectum* was leaf shape, in particular the relationship between the basal and middle lobes of the leaf. In 'typical' subsp. *italicum* the basal lobes are long and narrow and diverge sharply giving rise to the familiar leaf shape of the forms of *A. italicum* most often favoured in gardens **1** (p38) whereas the leaves of 'typical' subsp. *neglectum* have shorter, dumpier lobes that partially overlap and diverge only slightly or not at all **6** (p39). Observation of large



Photos Horticultural

Arum italicum 'Marmoratum' is the best known cultivar. Its leaf shape and markings traditionally suggest that it belongs to subsp. *italicum* but new work on wild populations has revealed that the distinction from subsp. *neglectum* no longer holds

populations of *A. italicum* in its widest sense in western France and southern Spain has showed that these leaf forms are simply elements within a very considerable pool of variation and that, where there are enough plants over a large enough area, intermediates in leaf shape are abundant. Pictures **4** (p38) and **5** (p39) are typical examples that fall with neither subsp. *neglectum* nor subsp. *italicum* and yet form part of a population within which numerous plants exist that can be unequivocally assigned on leaf shape to one or other.

Leaf markings

Another character I utilised in separating the subspecies, albeit primarily with regard to cultivated plants, is that of leaf markings. In gardens typical subsp. *italicum* is probably best recognised and certainly most favoured by gardeners in the form with strikingly silver-grey main and secondary veins (left). As pointed out in Boyce (1993), this leaf marking form is by no means the norm in wild populations, where unmarked or only very scantily silver veined leaves are far more abundant **2** (p38). Forms with plain green or variegated leaves with purple-black spotting are also common in the wild, such as **3** (p38), as are plants with leaves discretely spotted silver-grey.

Nonetheless, I did state that subsp. *neglectum* never displayed such variegation and used this as one of the potentially useful characters to aid identification. This is erroneous. Plants with typical subsp. *neglectum* leaf shape displaying silver-grey veining are not at all uncommon **7** (p39).

Interestingly, some nursery catalogues state that subsp. *neglectum* differs from subsp. *italicum* in having the leaf variegation not associated with the veins. This is not so. Any large wild population will have a bewildering range of leaf markings associated with the subsp. *neglectum* leaf shape with leaves ranging from silver-grey vein-associated variegation **7** to clouded variegation not associated with veining **8** (p39) while subsp. *italicum* also displays non-venation associated variegation.

Geographical variation

The geographical basis for the separation, with subsp. *neglectum* accounting for the northerly part of the range of *A. italicum* is reasonably stable although the remarkably unvarying nature of subsp. *neglectum* north of the Loire Valley is odd given the chaotic introgression south of the Loire Valley. ➤

Photographs: Peter Boyce

1 Typical *A. italicum* subsp. *italicum* leaf shape with moderate vein-associated silver-grey variegation

2 *A. italicum* subsp. *italicum* leaf shape with unmarked leaves

3 *A. italicum* subsp. *italicum* leaf shape with sparse vein-associated silver-grey variegation and black spots

4 Plant with leaf shape intermediate between *A. italicum* subsp. *italicum* and *A. italicum* subsp. *neglectum*

One explanation might be that the southern range of subsp. *neglectum* is blurred by massive hybridisation with subsp. *italicum*. If that were so, then one would expect subsp. *italicum* in its strict sense to become the dominant plant further south where it is far removed from the supposed northerly subspecies. This is not the case; the range of variation remains the same as far south as the Costas of Spain and into North Africa.

Given the unvarying appearance of plants from the northerly populations it seems likely that at least the wild UK populations of subsp. *neglectum* are for the greater part clonal or very closely inbred such that variation is minimal. There are sites at Arundel in West Sussex and on the Isles of Scilly (where *A. maculatum* is absent) which are typical of such possible near-clonal populations.

Inflorescence characters

The floral characters I used, mainly dealing with the relative abundance of the sterile flowers above and below the zone of fertile stamens is, also, part of a variation cline and in the intervening years it has come forcibly to my attention that the abundance of these sterile flowers is directly linked to plant vigour in this and all other *Arum*. It is not to be relied upon as a significant taxonomic character in

5 Plant with leaf shape intermediate between *A. italicum* subsp. *italicum* and *A. italicum* subsp. *neglectum*

6 Typical *A. italicum* subsp. *neglectum* leaf shape

7 *A. italicum* subsp. *neglectum* with vein-associated silver-grey variegation

8 *A. italicum* subsp. *neglectum* with non-vein associated silver-grey variegation

References to subspecies in these figures refer to my previous concept of their delimitation

distinguishing between elements within the same species. It does, however, remain a very powerful tool for separating different species.

The issue of inflorescence colours in subsp. *neglectum* being more sombre than in subsp. *italicum* is stable only for the UK populations where the dull ochre or purplish ochre spadix appendix and purple-flushed spathe limb are diagnostic. On continental Europe the colours are highly variable, with the sombre colours 'typical' of subsp. *neglectum* not infrequently occurring in inflorescences of typical subsp. *italicum*.

Garden potential

It will be apparent from the pictures that a considerable number of these plants are highly desirable garden plants. Picture **8** very closely approaches *A. italicum* 'Chamaeleon', a plant that caused excitement when it was introduced into European cultivation in the 1990s whereas **1** is close to *A. italicum* 'Bill Baker'. Many more of these plants would make excellent additions to the garden. ■

REFERENCE

Boyce, P (1993) The genus *Arum*. HMSO, London

PETER BOYCE is a botanist specialising in the aroids of Europe, the Mediterranean and South East Asia