

## Ilex Species at Caerhays

The desperation of Lockdown No. 3 has produced an article which attempts to unravel the puzzles and muddles in the naming of the older holly species growing here since the 1920s. Inevitably the names which George Forrest originally gave to his wild collections of hollies have been changed by taxonomists over the decades. One therefore has to try to marry back old planting records and species names to more modern identifications, while remembering that the hollies could have been misidentified before arriving at Caerhays!

The help from Susyn Andrews and Tom Hudson in trying to produce what now should be the correct identifications has been invaluable and is much appreciated. David Hunt first brought back *Ilex* specimens from Caerhays to Kew in March 1984 when Susyn had her first stab at identification.

This article may well be a small and rather dull piece of the garden history. However, when combined with an examination of the newer species of holly, which have been included in the collection here since the 1990s, hopefully readers will realise the range, diversity and interest which this genus has to offer.

Some 40 years ago as a student gardener I observed the assembly of a huge new National Collection of *Ilex* being planted in the Valley Gardens at Windsor on a south facing hillside above Virginia Water. For simplicity this article is restricted to species rather than including the many forms of *I. aquifolium* or *I. x altaclerensis* which are better known and more widely grown today in gardens.

Each of George Forrest's plant collecting expeditions in China produced collections of holly species. There were, for instance, 26 in the 1917-19 expedition and a dozen in the 1921-2 trip. My father compiled detailed lists from Forrest's field notes and records. Some species were collected several times in different places at altitudes ranging from 6,000 to 12,000ft. Some of the original names are still familiar to us today but many are not.

The Caerhays *Ilex* puzzles start with five original Forrest collections which are huge trees today and nearing the end of their lives. Three grow in a tight clump at the top of the garden and two are hidden away above the greenhouse.

In the clump of three our earliest planting records show two as *I. insignis* with the Forrest numbers 25424 and 25362. The first tree measuring here by Alan Mitchell, in August 1966, records two as *I. insignis*; then as around 32-34ft tall with girths of 30-32in. No name was given then to the third tree.

The second tree measuring here, by David Hunt in 1984, records two of these trees as *I. kingiana* (*I. insignis*) and the third as *I. cyrtura*. In 2016 Owen Johnson records all three trees as being county champions of *I. dipyrena* at much the same heights but now with larger girths. Over the years these three trees have also been variously named as *I. corallina*, *I. hookeri* and *I. forrestii* and even, on one occasion, as *I. latifolia*!!

You can begin to see the problem! It suddenly becomes appreciably worse when you refer to the 'The Genus *Ilex*', the enormous and definitive American book on holly species and hybrids. *Ilex insignis* does not exist in modern taxonomy as a recognised named of a species of holly. *Ilex hookeri* has, as you would expect, spinal leaves and the three ancient trees have only one spine on their leaves at the tip. Even allowing for the

fact that the juvenile leaves on some species of holly have far more spines than in maturity the puzzle grows but *I. hookeri* and *I. latifolia* are ruled out as possibilities.

Then one turns to *Ilex forrestii* (syn. *corallina*) in Galle's book. Confusingly he also lists *I. corallina* with some different characteristics especially as regards the recessed veining on the surface of at least the younger leaves lower down the trees. In other respects, the characteristics of the leaves of the two plants do match *I. forrestii* but, as the photographs show, our ancient trees flower on first year growth while Galle maintains that this species flowers on second year growth.

The two other veteran hollies above the greenhouse are recorded as follows:

- 1966 Not recorded
- 1971 *Ilex dipyrena* 40ft and 40ft with girths of around 5ft at ground level
- 2016 *Ilex dipyrena* 40ft and 36ft with girths of 3.8ft and 2.6ft 1m from ground level and one county champion tree

These two trees have grown up into the available light shaded by a large *Magnolia insignis* and consequently shed all their lower branches so that only the crown now remains. Only after extreme gales has it been possible to find twigs from the crowns. Here the leaves are smaller than those from lower down on the other two, but the conclusion has to be that they are identical to the two in the other clump of three. None of the four have been seen to fruit in recent years which may mean that they are too old to do so or that they are all males? Without frequent use of binoculars, we may simply have missed the berries on the trees or looked at the wrong time.

It is easy to be rather too critical of previous identifications when presented with a puzzle of this sort. However, after studying many photographs of twigs, branches and leaves taken at different times of the year, as well as visiting the four trees here again, Susyn Andrews has confirmed, once and for all, the identity of all four trees as *Ilex DIPYRENA*. The puzzle is solved and some of the 'experts' were not altogether wrong after all.



The trunks of the original Forrest collections 25424/25362 of *Ilex insignis* which are now known as *Ilex dipyrena*



Mature trunk of *Ilex dipyrena*



Cut twigs from 25424/25362 now known as *Ilex dipyrena*



Cut twigs from 25424/25362 now known as *Ilex dipyrena*



Flower buds on last year's new growth on 25424/25362 now known as *Ilex dipyrena*

The fifth veteran tree here is quite obviously a different species and here identification has been easier as there are, today, several mature, and many immature, specimens of *Ilex kingiana* in the garden. The Britain and Ireland champion, at 52.5ft with a girth of 7ft in 2016, is not the veteran tree in the clump of three but another single stemmed tree nearby.

*Ilex kingiana* has great merit as a garden plant if you have room. In February 1964 it received an RHS Award of Merit when shown in berry by my father. Its berries appear in huge quantities even on small plants but only ripen and turn red after Christmas and remain on the tree well into spring. This species has been spread by birds all over the garden and odd seedlings have appeared randomly here and there growing up through windbreaks and in unmown areas.

Before you settle back and think ‘problem solved’ Galle says the synonym of *I. kingiana* is *I. insignis* which is where we started off! Susyn Andrews confirms that this is correct.



*Ilex kingiana*

In examining the several naturally occurring seedlings of *I. kingiana* dotted around the garden with Susyn Andrews it became apparent that *Ilex dipyrrena* has also seeded itself to a much lesser extent.

Nature has made its own way!



*Ilex kingiana* – seedling in Penvergate



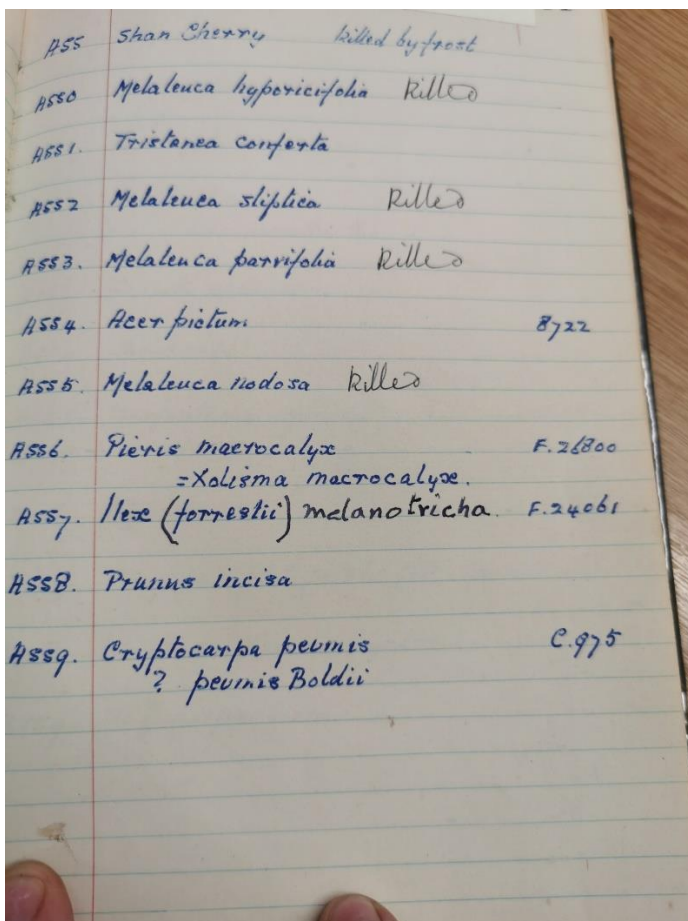
*Ilex kingiana* – a self-sown seedling

Bean refers to a group of seven *I. cyrtura* growing at Trewithen. In view of the fact that *I. cyrtura* has been identified previously here, and in a further attempt to sort out the naming muddles, I contacted Gary Long, the head gardener at Trewithen, for more information.

Galle mentions that *I. cyrtura* is an evergreen but the Trewithen plants are clearly semi-evergreen when exposed to severe weather, and were more or less defoliated except for their lower branches in the February 2021 'Beast'. The leaf shape is completely different from our *I. forrestii* or *I. kingiana* as you can see in these pictures. The Trewithen trees self-seed themselves around the clump and here and there through the garden.

Gary confessed to being confused about the identity of *I. cyrtura* as George Johnstone's records call it both *I. melanotricha* and *I. forrestii* with the Forrest collection number 24061. Susyn Andrews subsequently explained that 24061 is in fact *Symplocos glomerata* and that this is indeed *I. cyrtura*.

After all the references to the existence of *I. cyrtura* at Caerhays, and several recent searches for it with old garden plans, we remained mystified as to why we could not locate this species here. With a bit more thought and effort we did eventually cotton on to the three original plants in the Rookery which we had previously overlooked. As with the Trewithen plants our *I. cyrtura* were also leafless this spring.



George Johnstone's record of *Ilex cyrtura* at Trewithen



The clump of *Ilex cyrtura* at Trewithen



The nobbled trunk of *Ilex cyrtura*



Leaves of *Ilex cyrtura*

Then we come to another puzzle which has caused much unwitting confusion and led to Burncoose selling plants, as it turns out, under the wrong name over the years. The once rather small growing and compact holly immediately above the greenhouse has now become a tall trunked tree of 30ft in height with a girth of 32in as measured in 2016. It was identified in 1984 as *I. dipyrena* and this name persisted until recently when it was confirmed as *I. bioritsensis* by Susyn Andrews in 2011. Bean refers to it as *Ilex pernyi* var. *veitchii* which added to the confusion. However, this is now regarded as a synonym of *I. bioritsensis*. When you compare leaves on both young plants of *I. dipyrena* or on *I. pernyi* you can well see why the problems arose. However, Bean says that *I. bioritsensis* flowers in May/June while our original plant (presumably a Forrest collection) flowers in the autumn. Susyn Andrews however confirms that, at Kew, several male forms of holly species do have a (sometimes second) flowering in the autumn.



*Ilex bioritsensis* in bud and flower



*Ilex bioritsensis* – leaf form



*Ilex bioritsensis* – whole tree

Alan Mitchell's tree measuring in 1966 records *I. latifolia*, *I. dipyrena*, *I. sikkimensis* and *I. fargesii*. A 1971 tree measuring adds *I. georgii* and *I. yunnanensis*. All of these species (apart from *I. dipyrena*) appear to have subsequently died out here; *I. georgii* quite recently. However we have now managed to find recent replacements for *I. yunnanensis* and a form of *I. fargesii*. *Ilex latifolia* came back into the collection here in 1991.

I first saw *I. yunnanensis* at Rosemoor gardens and had trouble accepting that it was indeed a holly. It is a medium sized shrub with a bushy habit and small ovate toothed leaves with no prickles whatsoever. Originally a Wilson introduction from 1901 this species has now made a return to Caerhays where its new growth and flowers have merit in their own right. It needs shelter from cold winds as we have discovered and, hopefully, with three young plants one will turn out to be female so that we get some berries before long.



*Ilex yunnanensis*

Hilliers say that *I. corallina* should properly now be called *I. centrochinensis* but this is incorrect. Mr Galle's book does not agree and lists them as quite separate species which they are.

*Ilex corallina* presents another naming muddle and yet more confusion to try to overcome. Susyn Andrews' prognosis in March 1984 revealed the confusion between *I. corallina* and *I. centrochinensis* outlined in the *Kew Magazine* (formerly the *Botanical Magazine*).

Susyn Andrews confirms that our plant is *I. corallina* and that nurserymen and US taxonomists have muddled the propagation over the years to cause this plant to be incorrectly called *I. centrochinensis*.

This still begs the question as to whether we did once have an *I. corallina* introduction from Forrest growing here which has since died out?



*Ilex corallina*



*Ilex corallina*

Despite earlier identifications of other species as perhaps being *I. latifolia* we are now pretty confident that we do have this tree species after it has flowered and berried in recent years. One plant came from Windsor after the 1990 hurricane here and another was also a gift from Penrice Castle. Magnificent thick leathery leaves which (perhaps) nearly equal in size those of *Magnolia grandiflora* as is claimed in some reference books. The leaves have serrated edges and plenty of shelter is needed for it to do well, especially when young.



*Ilex latifolia*

For many years we had been puzzled by a huge suckering holly clump which used to grow in full shade under beech trees. It was clearly a holly species but it was only properly re-identified for us in 2002 by Philippe de Spoelberch (and Susyn Andrews) as, the rather rare in the UK, *I. perado* subsp. *perado* from Madeira. Quite how it arrived at Caerhays is unknown. It now grows in full sun and, peculiarly, it has flowers and copious bright red fruits at the same time in March/April. Just like *I. kingiana*, the birds have enabled it to naturalise in shady corners and windbreaks all around the garden.



*Ilex perado* subsp. *perado*



Our very best windbreak against salt laden gales on the seaward side of the garden has been the suckering and spreading *I. perado* subsp. *platyphylla* whose rounded leaves are genuinely enormous in young plants. It may not produce many berries in shady corners but it is underused in coastal gardens as an unscorchable windbreak. This subspecies comes from the Canary Islands.



*Ilex perado* subsp. *platyphylla*



*Ilex perado* subsp. *platyphylla* as a windbreak

To further muddy the waters we had been calling what is clearly now identified as *I. spinigera* by the incorrect name of *I. dipyrena*. In view of everything said previously here you can perhaps now appreciate

why there has been such confusion. I hesitate to say that this 1991 gift from Windsor was originally wrongly named but Susyn Andrews quickly put us right in 2011. One can appreciate how similar it is, at least in some respects in its younger leaves, to what we once thought was *I. dipyrena* now, correctly, *I. bioritsensis*. Subsequently Roy Lancaster has kindly given us another plant and this species was actually introduced by him from northern Iran in 1972.



*Ilex spinigera*

If you are not already too confused and bored to read on, here are a few details of five other very different species of holly growing well here where the current naming is, hopefully, not in any doubt.

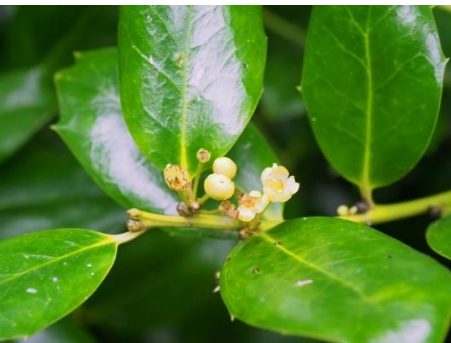
*Ilex dimorphophylla* was well established here by the 1990s. There are now a couple of small, compact growing trees of around 10-12ft in height which have very spiny juvenile foliage on small leaves and very unspiny more mature leaves. It would probably be a small shrub in less mild climates and originates from the Ryukyu Islands off Japan. As these photographs show its red fruits are spectacular in the autumn and persist into winter.



*Ilex dimorphophylla*

*Ilex cornuta* was also a 1991 gift from Windsor and John Bond. It has peculiar rectangular and five spined leaves but only has the occasional red fruit here with us which, like its flowers, are often hidden within the dense bush. It has been grown in the UK since 1864 and is a variable species which deserves a much wider audience as a slow, low growing, and easily prunable habit which makes it ideal for a boundary hedge or windbreak. Our original plant is only 6-8ft or so tall and 12-14ft wide after 30 years. Another more recent collection here of *I. cornuta* from Crûg Farm BSWJ 8756 from Korea has smaller leaves with more pronounced spines which are darker green. It also has a far more upright habit.

Susyn Andrews now advises us that the Windsor plant which is a male is similar to the female cultivar 'Burfordii'.



*Ilex cornuta* 'Burfordii' (male)



*Ilex cornuta* from Crûg Farm Nursery

*Ilex mutchagara* has been occasionally stocked by Burncoose and the original 30 year old female plant in the garden there is now about 15-18ft tall as you can see here. It looks to be turning into a tree. Susyn has now identified the Burncoose plant as *I. maximowicziana* (*I. mutchagara*) from China and Taiwan.



*Ilex maximowicziana* (mutchagara) with berries



*Ilex maximowicziana* (mutchagara)

*Ilex ficoidea* from China and Taiwan is another rare small growing species with interesting flowers and foliage but has yet to produce any berries here perhaps because our plant is a male. Attractive colouration on the trunk as well. It was planted in probably too exposed a site in 2000.



*Ilex ficoidea*

The deciduous *I. verticillata* is perhaps the only species of holly described in this article which is more widely grown and reasonably well known in horticulture. It is the sort of plant which you can pass by hundreds of times without noticing or even wondering what it is until, in late autumn or winter, it is covered in bright red fruits as its leaves turn yellow and drop. It has a spreading suckering habit of around 8-10ft in height and a larger spread after 35 to 40 years here. The leaves are about as un-holly-like as you could get but it is a very hardy North American species.



*Ilex verticillata*

Our planting records suggested that this is *I. opaca* from North America but, without noticing any flowers or berries, we have remained suspicious that it might actually be an *Osmanthus* species. It grows tucked away out of sight but now has a dense upright habit and is about 10-12ft tall. The leaves certainly are spiny, and it appears to conform to the characteristics described for *I. opaca* in Galle's book as Susyn Andrews now confirms.



*Ilex opaca*

*New Trees* lists a dozen new species of holly which are not described in Bean's volumes on *Trees and Shrubs Hardy in the British Isles*. As is sometimes proven to be the case one or two of these supposedly 'new' species may well have been in cultivation in the UK for rather longer than the authors believe even if they may have subsequently died out or remained misnamed. *Ilex forrestii* and *I. hookeri* are good cases in point when you consider the historic muddles here.

If you were minded to enquire further into these more recent arrivals into cultivation Tregrehan has specimens of *I. nothofagifolia*, *I. purpurea* and *I. rubra* to admire which are quite notably different to anything described here.

In the rather unlikely event that this article has caught your interest and you plan to delve deeper into the subject you might consider joining the Holly Society of America Inc. Mr Galle's book on *Ilex* lists around 400 holly species worldwide of which 30 are deciduous. More recent studies put the number of species at 700! There are, for instance, scores of named forms of *I. opaca* before you even start on the hundreds of named forms of commoner species. On balance you may feel, as I do, that this is all too vast a subject. Admiring it from afar and finally sorting out the naming of the hollies here has been quite enough of a challenge! This has only been possible with Susyn Andrews' extraordinary knowledge and expertise in this huge, complex and often misunderstood genus.

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June 2021