

## THE NURSERYMAN AS PLANT HUNTER

*The text of a talk given by Michael Wickenden as part of a plant hunting conference at The Museum of Garden History, Lambeth, London, on 1<sup>st</sup> October 2012.*

We have had some wonderful descriptions of plant hunting from Roy Lancaster and Bleddyn Wynn-Jones, and Professor Hitchmough has explained its importance for increasing the range of ornamental plants. They all mentioned various problems. My job is to have a closer look at those problems and how they affect a nurseryman who plant hunts, like me. I think they are part of some fundamental changes that are affecting everyone.

I was particularly interested in Bleddyn's account of his collaboration with Vietnamese botanists. By returning to the same place over a number of years he has managed to create good relationships that have allowed him to collect, and plant hunting in other countries is all about relationships, at least it was until a big black cloud called the Convention on Biological Diversity arrived, but more about that later.

Botany and horticulture used to get on rather well. Here is a quote from the botanist I. H. Burkill writing in the 1960's. He spent 60 years working on the Botanical Survey of India.

He says,

*'Horticulture is one of Botany's technologies, at any rate the two are mutually helpful and botanists have been not a little indebted to the horticulturalists for bringing the plant world under their eyes.'*

So he is thanking plant hunters. He mentions,

*'the gains of Botany by reason of the aspirations of horticulturalists.'*

That is two great phrases from I. H. Burkill that sum up for me how things should work. He explains how horticulturalists collected the plants, worked out how to transport them around the world before air travel, with Wardian cases and so on, and then how to grow them. This was a way in which amateur gardeners all over the country were, by buying plants from the nurseries that employed plant hunters, actually financing real science, helping to find new species for the botanists to write up.

So, 50 years ago the mutually beneficial relationship between botany and horticulture was long established and well understood. Today it has largely broken down. While there are some encouraging stories like Bleddyn's, all collectors, even real scientists, are finding it harder and harder to do their work. My experience has been that numerous requests I have made for joint projects abroad, for example taking a local botanist or student along at my expense to do some fieldwork, have rarely received a reply.

This all changed a few years ago when I got a sponsor. All of a sudden expeditions cost four times as much, my emails were replied to and I was able to collect – the institutes I worked with, in this country as well as abroad, seemed to be far more interested in my sponsors money than in the botany, herbarium specimens, seeds or whatever.

At this point I would like to try and set this subject into a bigger context. To do that we need to go back in time about 10,000 years to when our ancestors stopped chasing

mammoths and collecting berries for food and started farming, the first farmers. That was when the relationship between mankind and nature that we are discussing today really began. People started to save seed from one year to the next and improve what they were growing by selecting the biggest seeds to sow next year, the beginning of plant breeding. Thousands of generations of peasant farmers each added their contribution to the gene pool, their gift to future generations, including us.

Thanks to them meagre wild plants were very gradually transformed into the cornucopia of giant fruit and vegetables we enjoy today. They also started to move plants around the world, the beginning of plant hunting. As populations migrated they took their favourite food, medicinal and ornamental plants with them. Whole civilisations have been based on translocated food plants, rice from Asia, wheat and barley from the Middle East and maize and potatoes from South America.

This process took place because nature was common property, indeed it could hardly have been anything else. This free unimpeded access to natural genetic resources was a vital positive factor in human development for thousands of years, until 1993 in fact when the Convention on Biological Diversity became law. Along with the Plant Breeders' Rights system it transformed nature from common property into potential sovereign or even private intellectual property.

My contention is that this is when things went seriously wrong.

Just in case anybody is unfamiliar with the idea of intellectual property as it applies to plants, the best analogy is with books – you can own a copy of a book but not the right to reprint it for sale, the copyright. So, although the plants in your garden are still yours in some cases the right to take cuttings from them and sell the new plants you have grown does not belong to you because someone has patented it. So there are two things, the individual physical plant that is not so important or valuable and the intellectual property, the right to propagate it for sale, that is very important and valuable and used to be all common property.

This is beginning to sound rather abstract so I will try to explain it using my own experiences as a nurseryman and plant hunter. All these changes have taken place since I started my nursery and plant hunting in the early 80's.

Back then I was able to start a nursery with no capital because I had free access to the greatest capital of all, nature. I remember when it dawned on me that there are 300,000 species of plants out there and that I could grow, propagate and sell any of them. Here was a way of doing what I enjoyed and making a living at it. So I propagated everything in sight and that nursery is still going 28 years later. I would say that many of the famous large nurseries started in the same way.

As soon as I had sold some plants and had some money I wanted to go plant hunting to see the plants in the wild and, hopefully, collect some seeds. I decided to go somewhere with an interesting hardy flora but not one of the obvious destinations like the Himalayas. I could only get away in our winter so it had to be the southern hemisphere. I decided to go to Chile that, in the mid 80's, was just beginning to emerge from the very dark days of the Pinochet regime so it had been off the plant hunting agenda for quite a few years.

I did not assume that I could just wander around Chile collecting seeds, I did not know what the position was, so I went to the Chilean Embassy in London and asked for permission to collect. A charming Chilean diplomat first ascertained that I wanted to collect only very small quantities of seed. He told me that if I was in a national park I should ask the park keeper and if on private property I should at least try and find the owner but apart from that I should have a good trip and enjoy his country, which I certainly did. I spent three months travelling up and down the Andes and some of the plants I raised from the seed are still around, like *Scabiosa* ‘Chile Black’, *Mitraria* ‘Lake Caburgua’ and *Buddleia globosa* ‘Cally Orange’.

These days, getting official permission to collect anything natural in South American countries is, post Biodiversity Convention, notoriously difficult. The governments of these and many other developing countries, where most of the remaining unspoilt floras are, decided they were sitting on a treasure trove of genetic resources that, under the Convention, could be owned, and if anyone was going to own it, it should be them. That’s perfectly understandable. Most of these countries were once colonies of the western powers and post-colonial resentment, also understandable, has been a factor in their willingness to sign up to the Convention with its nature-as-property agenda.

Let’s have a look at the Convention.

The first thing I noticed when I looked at the Convention website was that over the next two months they are holding no less than 14 conferences in India, Vietnam, Uganda, the Emirates, Mexico and Singapore. These events are attended by lots of people from all over the world and began in 1988 six years before the convention became law in 1993. Hundreds of people are earning their living from this and, I suppose, from their point of view, that is an end in itself.

The convention was justified on three grounds – promoting **conservation**, encouraging the **sustainable use** of natural resources and **benefit sharing**, helping all parties to get some benefit from anything that is commercialised.

No politician in the world is going to vote against ideals like that, it is motherhood and apple pie, and 168 countries signed up. Unfortunately, the lawyers who put the convention together, with, I suspect, businessmen standing behind them in the shadows, decided that the way to achieve these ideals was to drag natural genetic resources into the domain of intellectual property so that the right to use them could be patented and bought and sold. That’s a fundamental change in the relationship between us and our main resource, nature.

So, the first justification was conservation.

The idea that this convention helps conservation has already attracted a lot of criticism – although plants should be conserved in their natural habitats they are often threatened by agriculture and development so to establish them in gardens or seed banks is conservation.

This might be a good moment to distinguish between different types of plant hunting. There is something I call plant harvesting whereby, for example, someone goes to another country and digs up a whole mountainside of bulbs, ships them home and

sells them. If that goes well he returns the next year to clear the next mountainside. This is obviously unacceptable and is not plant hunting. My approach to the same mountainside would be to collect a few seeds, take them home and grow them, thereby conserving and increasing the plant without having any impact on the environment.

Maybe the politicians had plant harvesting in mind when they voted for the convention. In any event, this problem had already been addressed twenty years previously by the Convention on the International Trade in Endangered Species (CITES) that was adopted by 80 countries in 1975.

Sustainability – well, I spent some time trying to find out how the convention is supposed to promote sustainability but, apart from numerous expressions of good intent, there was little hard information. If a natural resource, for example a drug plant, is being over harvested the solution is more likely to be helping the locals to cultivate or conserve it, not allowing a foreign company to patent it and produce a pill that the local people can not afford.

Finally, benefit sharing. This is the most emotive and interesting aspect of this convention. The picture it conjures up in many peoples' minds is of an impoverished tribal group provided with roads, schools and hospitals courtesy of some drug company that has made a profitable medicine from a plant found on their land. In practice it is rather more complicated.

I ploughed through a lot of reports and case studies looking for examples of successful projects but found few cases where they had even got as far as specifying sums of money. One where money had actually changed hands was when Yellowstone National Park was paid \$100,000 for bio-prospecting rights by an American company, so the money stayed in the US, not quite what I was looking for. This transaction was made public because the parties involved thought that it would be good for their image, wrongly as it turned out. Most of these deals are kept secret due to commercial confidentiality so we do not know who pays what to whom or whether my next example is typical.

The San people of South Africa, often known as Bushmen, have used a plant called Hoodia to stave off hunger during hunting trips for centuries. In 1996 the South African government isolated the active ingredient and patented it. The patent was sold to a UK company called Phytopharm who announced that the San people were extinct so were not due any payments under the Convention for the plant or their knowledge about its use. There are actually about 100,000 San but they are in scattered groups severely traumatised by a century of being driven off their land by settlers who often hunted them down like animals. They are hunter-gatherers in transition with no overall leaders and a non-western attitude to property. As with many dispossessed aboriginal peoples alcohol has had a dreadful effect. I think we can say that they are uniquely badly qualified to negotiate with global business and international lawyers. However, their case got into the press and was taken up by well meaning people around the world who helped them to get a 6% share of Hoodia sales. As far as I can find out they have yet to receive any money from this source because the patent keeps changing hands. Phytopharm sold it to Pfizer who pulled out then they sold it to

Unilever who also pulled out. Recently Phytopharm have themselves pulled out and returned the patent to the South African government. This all took years.

The interesting point is that the only money the San seem to have received has been from domestic agreements they made with South African Hoodia farmers – outside the framework of the Convention.

Most of the benefit sharing agreements that I found were between foreign companies and government departments or other elite groups – one wonders if the money will ever reach the people who really need it.

Here are some quotes from a remarkably frank report on benefit sharing commissioned by the convention authorities. They are from a section called ‘Increased mistrust and the absence of goodwill.’

*‘Rather than coming together over the last 13 years to create simple workable legal and regulatory frameworks for access and benefit sharing, providers and users of genetic resources are increasingly estranged,’*

and

*‘Access and benefit sharing are all but stalled in practice, with only a small minority of governments enacting regulations that meet their obligations under the Convention and companies are increasingly loathe to access genetic resources.’*

So, benefit sharing is so difficult in practice and such a public relations minefield that companies prefer to collect in, for example, national parks where benefit sharing is with government departments rather than local people. We all loose out because potentially important resources are not included in research.

Finally, the report asks,

*‘Is the privitisation of Traditional Knowledge (such as the San had about Hoodia) not contrary to the belief of many communities that such knowledge is collectively held, for the benefit of the broader community?’*

This reminds me of the tribal people who have been my guides and porters on plant hunting trips over the years. Many of them were animists who treat the spirits they see in nature with great respect. They have the closest relationship with and dependence on nature and yet they are generous with it. It seems to me that they have a lot to teach us about an appropriate attitude to nature.

So that’s my take on the Biodiversity Convention, one half of the two-pronged attack on our right to interact freely with nature.

Let’s have a look at how the other half, the Plant Breeders’ Rights system, operates. If you try and start a nursery now in the way that I did in the 80’s you will not be able to without paying lots of royalties to people and corporations who have patented some of the plants that you want to grow and your customers want to buy. Apart from the cost you will have become part of a system that is taking millions of pounds off the gardening public every year for plant breeding that, in many cases, never took place.

Let me explain that. In June 1997 the Plant Varieties Act, which opened up all types of plants to patenting, was pushed through parliament in a single day. This was three weeks after Tony Blair had got in and nobody took much notice except Norman Baker, then a bright eyed and bushy tailed new MP. He asked Jeff Rooker, the

minister who wanted to get the bill through, a rather awkward question that went like this: since the sole justification for patenting plants was that they were the result of long expensive breeding programs that had to be rewarded and encouraged (the system is called Plant Breeders' Rights) why not have an amendment banning the patenting of anything that occurs in nature that had not been bred? This would have solved a lot of problems.

Rooker, now Lord Rooker, turned down the amendment on the grounds that only plants that were the result of 'significant selection and re-crossing' would be patented. This on the record promise that is in Hansard for all to see was then simply ignored. When the law came out it transpired that no breeding work was needed to get a patent, there was no definition of plant breeding and they do not even ask if you have done any breeding when you apply for the patent. The inevitable result is that many plants that simply came up by chance or were collected in other countries have been patented.

Now, I was under the impression that I lived in a democracy where elected representatives were listened to not mislead, which is what happened here. This is one reason why my nursery will never patent anything or sell plants that are patented. It is actually quite hard to avoid the latter because new plants can be released for sale to test the market and then patented later if they go well. I have plants on my nursery today that I will have to throw away because they were grown from stock plants that have been patented since I bought them.

So, to sum up the situation as I see it – business wants to own the most valuable material thing on the planet, natural genetic resources. (At the moment it is busy patenting whole swathes of genes that exist across numerous species.) To make this possible the Biodiversity Convention and Plant Breeders' Rights have been used to take nature out of common property under the cover of conservation, sustainability, benefit sharing and plant breeding none of which seem to me to be well served by these laws.

Plant hunting is a perfectly respectable if somewhat eccentric activity but it is rapidly becoming illicit. Most plant hunting that goes on these days takes place in secret. The botanists at our botanic gardens are not allowed to study the new plants from these expeditions; even reputable botanists have had plants rejected by Kew because they did not come with the right business contract. It is business first and science second and, in my opinion, that is the wrong way round. Things have really gone downhill since the days of I. H. Burkhill, the botanist I quoted at the beginning.

Plant Breeders Rights and the legion of lawyers who enforce them have created a world in which fewer and fewer nurseries propagate plants at all because it is hard to know what you are allowed to grow. It is so much easier to buy in small plants from the few big royalty-orientated wholesalers, pot them on and quadruple the price. This is why so many retail plant outlets carry similar stocks.

You may think that interacting with nature is not a very important part of your daily life, here in central London. Plant hunters do have a close engagement with the natural world that is unusual in the industrialised west but in fact you are all involved. If you are interested in eating food, wearing clothes, having medicine when you are ill or buying plants at garden centres you are entirely dependent on natural resources,

particularly plants. These days some of them will be patented so we are all paying royalties every day hidden in the cost of what we buy.

I would like to finish with a question that I have been asking people for years and to which I have never had a proper reply – how can someone have the same ownership rights over a piece of nature that has evolved over millions of years with no help from anyone, as they have over a book they have written?

Nature is not intellectual property, it is life and life should not be owned. Sadly, it already is, 20% of the human genes that are part of everybody in this room are currently the subject of a patent.

Thank you very much.

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