

My father's oaks

Roderick Cameron

Humans have a tendency to collect things. One can imagine some genetic code handed down from our hunter-gatherer ancestors that drives some of us to amass certain artifacts within a given category, striving to obtain the rarest specimens, to complete sets, to exhaust the possibilities of diversity within the constraint of the chosen class of things, driven by an impulse that goes beyond the pursuit of beauty or the purpose of research. From snuff boxes to postage stamps, butterflies to fine art or antique cars to toy soldiers, they are all fair game for a collector's fancy. The subject of this article, however, is a somewhat unusual choice for a collection: oak trees.

My father, Duncan Cameron, began collecting oaks once he had retired from farming. His retirement coincided with a new stage in my parents' life, when they undertook the creation of a new homestead on their farm, starting from scratch on a bare field. This opportunity provided my father with the space required to set about collecting oaks. The story goes that it all started when my mother returned from the Chelsea Flower Show bearing two seedlings of rare oaks as a gift to my father. By the time he died, 14 years later, his collection consisted of over 100 established specimens of oaks with a distinct botanical name, not counting a similar number of seedlings that perished for one reason or another.

To most people, the concept of collecting oak trees may not make much sense, as the popular conception of oaks extends to only a few species: the English oak, with its typically shaped leaf with rounded lobes; the red oak, whose lobes are pointed; the holm oak or holly oak, with, as the name suggests, leaves resembling holly; and the cork oak, from whose bark the traditional stoppers for wine bottles are made. In fact, oak species are legion, current estimates put the total number at between 250 and 600, depending on whether the botanist you consult is a lumper (who looks for reasons to claim that two oaks may be quite similar) or a splitter (who would examine the same two



Golden Oak

species and search for justifications to declare them to be slightly different).

While the oak is often taken as a symbol of England or Britain, and thus apt for an Anglo-Argentine looking for a memento of their mother country, the United Kingdom ranks low on the list of countries where different oak species grow. Only two oak species are native to the UK. The US can claim about 60. The state of California on its own boasts 19 species. A similar number grow naturally in Japan and about 100 in China, but the country with the most oak diversity, and thus the mecca for oak collectors, is Mexico, with about 160 species.

Species tell only half the story of why an oak collector's quest is endless. Oaks readily hybridise, whereby two related oak species cross-pollinate and create offspring which reveal a blend of characteristics from both parent species. Hybrids occur in the wild, and if two or more related species grow in the same forest, there will be many trees with intermediate characteristics. They also occur due to human interference, when two species from different parts of the globe are planted in the same garden and have the opportunity to cross-pollinate, or when a nurseryman or scientist deliberately pollinates the female flowers of one species with the pollen from another. Hybrids in general do not come true from seed, in other words, the acorn of a hybrid tree will produce a tree that may differ substantially from its female parent, revealing characteristics of the



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A lot of his free time is currently dedicated to managing an arboretum. He resides in Montevideo with his wife, son and three cats.

original hybrid parents, but this does not stop taxonomists from giving names to hybrids according to their parentage.

The variety does not end with species and hybrids. One can also collect cultivars (short for cultivated varieties), which are certain forms of a species or hybrids that have been selected because of a notable characteristic and then propagated through grafting so as to preserve that special form. Grafting is necessary because the acorns of a cultivated variety would in most cases revert to a more standard form of the tree in question. The characteristic could be simply a certain habit of growth, such as a narrow columnar form, or a particularly attractive autumn colour, or something quite unusual like a variegated leaf form or one with purple leaves or with leaves that are deeply cut and look more like a fern than an oak.

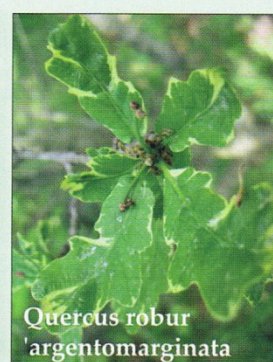
The taxonomy or classification of oaks has changed over time and continues to evolve thanks to the advances of genetics. It is a complex task because oaks display an enormous variety, not just in physical characteristics, but also in their seasonal behavior. Oaks can be giants of the forest or knee-high shrubs, their bark can be smooth or flaky, their leaves lobed or entire, they can be evergreen or lose their leaves every autumn or change them every spring. This diversity is made possible by their ability to hybridise and has made them adaptable to climatic changes and allowed them to spread so far across the northern hemisphere and grow in different ecosystems.

While an in depth analysis of oak taxonomy is not appropriate here, a brief overview could be useful. The name of the oak genus is *Quercus*, the Latin word for oak, and is pronounced 'kwercus'. It is interesting to note that this word is the origin of 'cork' in English and 'corcho' in Spanish, and probably through Arabic the source of the name in Spanish of the cork oak, 'alcornoque' (if you remove 'al', the definite article in Arabic, the similarity is evident). As a rule of thumb, what defines an oak is the fact that it produces an acorn, a nut held in a cup-shaped cap or cupule. Within the genus, the species are classified into several sections. Aside

from general similarities within these sections, what defines a section is that species will only hybridise with other species within the same section. The main sections within *Quercus* are the White Oaks and the Red Oaks. The White Oaks are found throughout the Northern Hemisphere, while the Red Oaks are native to America only. White Oaks include the English oak, known in Argentina as *roble europeo* and scientifically as *Quercus robur* (*robur* refers to its strength—think of 'robust'—and is the origin of the Spanish word for oak, *roble*), the American white oak, *Quercus alba*, the holm oak or holly oak, *Quercus ilex*. Amongst the more common Red Oaks we find the northern red oak (*Quercus rubra*, known here as *roble americano* or *Quercus borealis*) and the shingle oak (*Quercus imbricaria*).

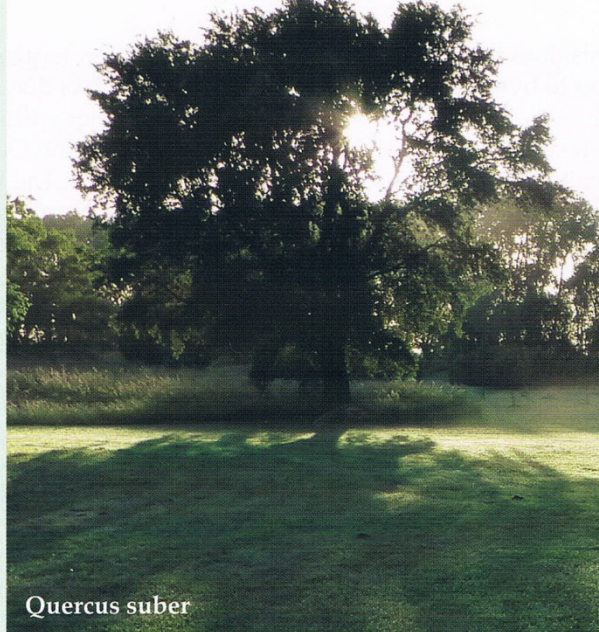
Establishing an oak collection or *quercetum* (an arboretum specializing in oaks) in Argentina is a somewhat quixotic enterprise and presents many challenges. Excepting Antarctica, Argentina is one of the areas of land most distant from the natural habitat of oaks. They are found throughout the northern hemisphere, but aside from a small area in Indonesia, do not occur south of the Equator. Only one species is found in South America, *Quercus humboldtii*, which grows in northern Colombia. In Argentina, only five species are generally available from nurseries: *roble europeo* (*Q. robur*), *roble americano* (*Q. rubra*), *encina* (*Q. ilex*), *roble de los pantanos* (*Q. palustris*, pin oak) and *alcornoque* (*Q. suber*). In order to expand a collection beyond those, you must import from overseas, a process which presents challenges too numerous to discuss here.

Supposing one has surmounted the obstacles involved and obtained the plant material, further trials await. As the acorns or seedlings have crossed the equator, they have changed seasons in a matter of hours or days and their biological clocks are six months out of sync. With acorns the issue is less critical. Acorns will have been harvested in northern hemisphere autumn and when thrust into southern hemisphere spring they may happily sprout and enjoy a full growing season. Acorns in the White Oak section usually sprout a root in autumn and then a shoot in spring, but when



skipping winter on being brought into the southern hemisphere they will not develop as fully as they would if they had a winter during which to consolidate their roots. Acorns of the Red Oak section actually require a period of cold in order to break dormancy, so on arrival in Argentina they must be kept in a refrigerator for at least six weeks. If they germinate after that, they will have a shorter growing season before autumn and winter shut them down again. The result is that many acorns do not complete the process of developing into trees. With seedlings, the problem is more severe. They are brought out when dormant, in the northern hemisphere winter, and receive a rude awakening when they arrive in Argentine summer. Most will burst into leaf the first year, but as their growing season is shortened, I have found that many, especially the more delicate cultivars, will not leaf out the following spring and so die, presumably because they were not able to build up enough reserves to make it through winter.

If your seedling survives and you manage to plant it out in its final location, a further set of dangers lie in store. Protection must be provided against rodents: a hare will break off the top of your tree or gnaw the bark and kill it. Ants are a further menace and can entirely defoliate a small oak overnight. The oak may grow its leaves back, but if the ant attacks are repeated, the tree's reserves will be exhausted and it will die. Watering is also crucial, as a dry hot summer will spell doom for a young oak if it does not receive additional irrigation. My father's quercetum is located in the southeastern section of the Province of Buenos Aires, and so enjoys relatively benign conditions. Nevertheless, a



Quercus suber

summer drought can be fatal. Our frosts tend to be mild, so most oak species will be hardy. In the case of those native to the tropics, hardier specimens can be obtained if they are sourced from a high altitude.

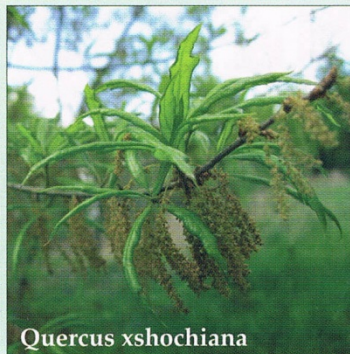
An oak collection in Argentina is unusual, but not unique. Two other notable collections exist, one near Olavarría, planted by the late Giuseppe Guazzone de Passalacqua, and the other near Coronel Pringles, the property of Peter Laharrague and the largest

oak collection in the country. My father made contact with these collectors when he became interested in oaks, made enduring friendships and through them joined the International Oak Society. This society, founded in the early 90s by a group of enthusiasts who exchanged acorns primarily in the United States and Europe, played a fundamental role in the development of his collection. It is an invaluable source of contacts and an important source of seed, especially through its triennial conferences, which feature a seed exchange. Many of the oaks in my father's collection can be traced to these events.

My father died unexpectedly in 2008 before he was able to deal with the issue of the collection's future without him. I had no background in botany and had never really discussed the oaks with my father, save an occasion when I asked him whether the trees were not planted too close together, to which he sagely answered: "That is not going to be my problem!" But I found myself drawn to the quercetum and I decided to take on the maintenance of the collection. I had no information to go on, save some labels that I found incomprehensible and a stack of diaries that contained lists of the oaks



Quercus baloot



Quercus xshochiana



Quercus fabrei
catkins



Quercus rugosa

in the collection at the beginning of each year, and pithy notes regarding new accessions, such as: "Yesterday I received from our friends in Holland 'Christmas decorations' consisting of *Q. Robur Irtha*, *Q. Kewensis*, *Q. ×Lucombeana*, *Q. Vilmoriniana* and *Q. Macrolepis*. This would bring the total to 119 less losses." Soon I was contacting the nurseries mentioned in his notes, at first trying to replace the young oaks that died in the summer drought of 2009, then looking to obtain more oaks. I joined the International Oak Society and through it met other collectors. I found myself planning family holidays and business trips so as to be able to visit important oak collections in the United States, Europe and New Zealand and to explore native habitats in Mexico. I came to realize that through his oaks, my father had handed down to me the mild mania of a collector, the obsession with acquiring, nurturing and admiring these silent, sturdy companions who will outlive us all. **B**

*For more information on the oak collection, including opportunities to visit it, go to www.grigadale.com.ar
You can learn more about the International Oak Society at www.internationaloaksociety.org*