

Photograph by J.R.P. van Hoey Smith

Quercus x libanerris

between the parents, but it has the growth and will grow the size of *cerris*. The first seedling was named *Q. x libanerris* 'Trompenburg'. Later a seedling appeared with the same good growth, but serrate leaves, exactly the size of *libani* and acorns even larger than those of *libani*. This outstanding cultivar I named *Q. x libanerris* 'Rotterdam' and the vigorous narrow habit makes it very suitable for street-planting.

Quercus 'Macon' (*macranthera x frainetto*) also originates from Trompenburg. The leaves are frainetto-like, but the indumentum of the young shoots and the buds are pure *macranthera*. However, the acorns are 3-4 cm long and only 0.5-0.8 cm wide. It makes a beautiful tree.

Quercus petraea 'Columna' is the hybrid of *Q. petraea* 'Muscaviensis' and *Q. robur* 'Fastigiata'. When young, the habit is good, but it starts broadening after 15 years. At Trompenburg it fruited already abundantly and then it mendels back to the parents, but between them we found two with a better compact fastigiata shape. *Q. petraea*

'Westcolumn' has 'Columna' leaves, is 8 m tall and 60 cm wide. *Q. petraea* 'Eastcolumna' is the same size, but only one leader on top, much smaller leaves, consequently the first impression is better.

Quercus 'Pondaim' (*pontica x dentata*), at Trompenburg the parents grow near each other and between *pontica* seedlings this oak appeared, which is intermediary between the parents. The leaves are very large, but serrate like *pontica* and the growth and size are that of *dentata*. It keeps the leaves in winter. A very remarkable tree indeed.

Quercus x turneri (*ilex x robur*), in Dutch nurseries this was the only available evergreen oak, at the time under the name *Q. austriaca sempervirens* and *Q. x turneri* var. *pseudoturneri*. It can grow to a medium size, but is very wide. The green leaves fall down in spring when the buds open. It was raised in the nursery of Mr. Turner of Essex, England, in the late 18th Century. It is the hardiest of all evergreen oaks, even when in a severe winter it drops its leaves at very low temperatures. Δ

THE GENUS QUERCUS IN ROMANIA

BY DR. STELIAN RADU

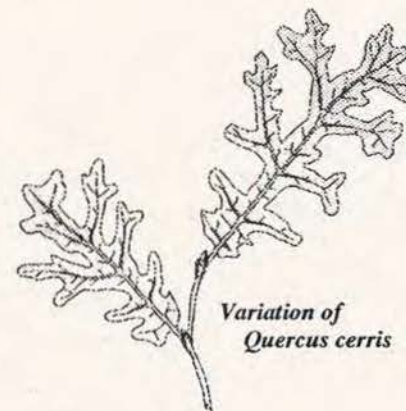
Seven species of oaks, belonging to the family group *Cerris* (Spach. & Oaerst) and *Lepidobalanus* (Endl. & Oesrt) subgenus, are spontaneously growing in Romania. All together, they roughly cover 2,970 acres, which represents about 19 percent of forested land. Another 20 exotic oaks were introduced and cultivated in forests and parks.

Due to their silvicultural importance, the Romanian native oaks were thoroughly studied during the past 50 years from different points of view: botanical, ecological, genetic, typological, edaphic, mensurational, diseases and pests control, including the wood properties and uses. Abundant Romanian literature is available on these topics.

For a short and general note, addressed to the International Oak Society members, we have tried to compile some basic data. The nomenclature, occurrence, soil requirements and uses of Romanian oaks are listed in the following table.

The great diversity of sites and compositions of stands, formed by these species, is well reflected in existing classifications. Therefore, oak forests were studied and described: 141 forest types (Purcean, Pascovschi, 1968), 104 site types (Chirita, Stanescu, 1990).

Producing high quality wood, the oak forests exert multiple productive (climatic, hydrological, and erosion control) functions. But during the centuries, the natural oak forests endured a strong antropic pressure. The deforestations, application of coppice



Variation of
Quercus cerris

systems, abusive forest pasture, prolonged and frequent droughts, strong defoliations and finally, air pollution and acid rains - produced an appreciable weakness of some oak ecosystems.

The so-called 'dieback' ('deperissement') of oaks, frequently recorded in Europe during the last decades, is noted also in Romania, particularly in European and sessile oaks, and sometimes on other species. The oak forests are subjected to sophisticated silvicultural systems, relying on natural regeneration. But seed crops are, unfortunately, rare, particularly in last decades.

In the frame of scientific cooperation and exchanges of biological materials, our research station is able to locate seed crops for these species and to organize the collection and dispatching through the post (with necessary documents of provenance and phytosanitary certificates) of some small quantities of acorns, in exchange of North American or Asiatic forest and amenity tree seeds. Special requests must be directed in advance to: Forest Research Station & Arboretum, str. Biscaria, 1 Jud. Hunedoara, R-2625, Simeria, Romania. A catalog of seeds and plants for exchange is published annually by our research station. Δ

NOMENCLATURE, OCCURENCE, SOIL REQUIREMENTS
AND USES OF ROMAINIAN OAKS

* Explanation of Soil Requirements:

I - TROPICITY: 1=poor; 2=middle; 3=rich; 0=wide variability

II - ACIDITY: 1=acid; 2=moderate acid; 3=weak acid; 4=neutral; 5=alkaline

III - HUMIDITY: 1=xerophyte; 2=mesoxerophyte; 3=mezophyte; 4=mesohygrophyte; 5=hygrophyte; 0=wide

SCIENTIFIC AND COMMON NAMES	SYNONYMS	VARIABILITY	OCCURENCE		MAX. HEIGHT (FEET)	SOIL REQUIREMENTS*				TIMBER VALUE	AMENITY VALUE AND USES	OTHER REMARKS
			GENERAL	ROMANIA		I	II	III	TEXTURE			
<i>Quercus petraea</i> (Matl.) Liebl. (Sessile oak)	<i>Q. sessiliflora</i> salisl. <i>Q. sessilis</i> Ehrh.	-ssp. <i>petraea</i> -ssp. <i>polycarpa</i> (Schur.) 500' -ssp. <i>dalenchampii</i> (Ten.) 500' -climate and edaphic ecotypes	Europe Carpath-Balk. -Caucas. Alps-Carpath. -Balkan	-hills & piedmonts -pure and mixed stands	100(130) 85 100	0 0 0	2-3 2-3 1-3	3(4) 2 2-3	coarse	good & remarkable (some provenances)	-subf. <i>mespilifolia</i> (Wall.) Schw. -f. <i>lacinata</i> -f. <i>longifolia</i> - seldom cultivated in parks	-deep, drained soils -shallow or skeleton soils -shallow or skeleton soils
<i>Quercus robur</i> L. (English Oak)	<i>Q. pedunculata</i> Ehrh.	-v. <i>tandiflora</i> Czern -var. <i>praecox</i> Czern -var. <i>robur</i> -var. <i>puberula</i> -great variability of leaves, acorns & habit	Europe	-plain....hills -pure and mixed stands	130(165)	0	1-4	0	loamy-sandy.... sandy-loamy	good & remarkable (some provenances)	-f. <i>fastigiata</i> (Lam.) Schw. - used in parks as as single tree or in groups	-deep, loose, drained soils
<i>Quercus cerris</i> L. (Turkey oak)			Mediterranean	-forest steppe.... hills -pure and mixed stands	100(130)	0	1-3	1-2	sandy-loamy....clayey	good - medium (forms with white heartwood better than red ones)	- seldom cultivated	- compact or dense soils
<i>Quercus frainetto</i> Ten. (Hungarian oak)	<i>Q. conferta</i> kit		Balkan	-forest steppe.... hills -mixed (seldom pure) stands	130	0	1-3	1-2	sandy-loamy....clayey	good	-extremely decorative	-compact or dense soils
<i>Q. pedunculiflora</i> C. Koch (Greyish oak)		-var. <i>pedunculiflora</i> Schuz. -var. <i>virescens</i> C. Koch	Pontic (around Black Sea)	-forest steppe - pure and mixed stands	130	3	3-4	2	medium coarse	good	-seldom cultivated	-loose, sandy soils -subthermic sp., identified & described by Alex. Borza (1936)
<i>Q. pubescens</i> Willd. (Pubescent oak)	<i>Q. lanuginosa</i> Thuill.		Mediterranean	-forest steppe.... hills -open stands, shrub size	13-50 (65)	2-3	4-5	1	sandy-loamy.... clayed loamy	insignificant		- skeleton, calcic soils -subthermic sp.
<i>Q. virgiliana</i> Ten.			Mediterranean	-forest seppe.... hills -open stands, shrub size	65	2-3	4-5		sandy-loamy.... clayed loamy	reduced		-skeleton, calcic soils -subthermic - thermic sp.

AN OAK COMMON IN FRANCE - THE ENGLISH OAK
(*Q. robur* L. and *Q. pedunculata* Ehrh.)

BY STEPHAN BRAME, VILLENEUVE, LECOMTE, FRANCE

The English Oak is found in almost all the French territories except in the extreme South (Mediterranean region) and in the mountains above 1000 m high. It grows in a large part of temperate Europe. It puts up with different climates, in oceanic as well as in continental climates, and grows in all types of soils - acid and alkaline. However, it is often replaced by *Q. pubescens* in chalky and hot sites. The species is able to colonize in the same dry or damp ground, but it only reaches a large size (30 or 40 m high) in rather deep soils with a little dampness and in luminous exposure.

There are many natural oak plantations located in very superficial grounds, the roots of *Q. robur* are able to grow in the clefts of the rocky soils where, however, it may reach a rather large size. The part played by this oak in the improvement of poor soils due to the dead leaves is important and allows the installation of a more exact species. The tree sprouts vigorously after falling and then the few shoots that were thrown out are also able to attain a large size.

Although it is quite hardy here, it is frequent to see marks of frost on old trunks - on poor soils. It is used as a reserve of copse because it is a very good wood for fuel.

The old specimens isolated along the road or in the pasture have a big and rather short trunk with a typical rounded crest. The large trees found in the forests produce a more long trunk. The wood is searched for framework because it is very tough and not very attacked by insects.

In our country, the only tree able to overtop and to eliminate the English Oak is *Fagus sylvatica*. The acorns produced by the big trees are often abundant and are eaten by rodents, wild boars and some species of birds (Jay). The English Oak is able to live for several centuries. There is a variety of *Q. robur* not very rare and found in the eastern part of France (*Q. robur* var. *tardissima*), called here June Oak, because it unfolds its leaves about one month after the type and is never injured by spring frost.

Many other varieties are met in the collections and I think the most striking are:
-*Q. robur* 'variegata' - leaves variegated with white
-*Q. robur* 'condordia' - leaves bright yellow
-*Q. robur* 'asplenifolia' - leave pinnatifid
-*Q. robur* 'fastigiata' - of columnar shape

The English Oak makes hybrids with almost all the other oaks located in its area:
-*Quercus x semilanuginosa* = *Q. lanuginosa* x *Q. robur* (= *pubescens*)
-*Quercus x apennina* = *Q. pubescens* x *robur* x *sessiliflora*
-*Quercus x intermedia* (*Q. x rosacea*) = *Q. robur* x *Q. sessiflora*
-*Quercus x andegavensis* = *Q. robur* x *Q. toza*

I grow in my garden a handsome small tree called *Quercus x Hickelii*, a hybrid between *Q. robur* and *Q. montana*.

The following comparative chart is a recapitulation including notes about two oaks often discussed: English Oak and Durmast Oak. Δ

	ENGLISH OAK (<i>Q. robur</i> L. , <i>Q. pedunculata</i> Ehrh.)	DURMAST OAK (<i>Q. petraea</i> Liebl., <i>sessiliflora</i> Salisb.)
Shape	- Irregular with curving branches.	-Less irregular with a differentiated top
Leaves	-very short petioles -limbs becoming wider near the top of the leaf -two rounded auricles at the base -dark green and sometimes glaucous - not bright, not leathery	-petioles 1 - 2 cm long -limbs becoming wider at the middle of the leaf -no auricles at the base -shiny green, rather leathery
Acorns	-ovoid cylindrical -borne by long peduncles	-ovoid globular -borne by very short peduncles

