

## CONSIDERATIONS REGARDING THE VALUABLE BROADLEAVED SPECIES IN ROMANIA

LUCIAN DINCĂ, MARIA DINCĂ

Forest Research and Management Institute, Braşov Station, Romania

### ABSTRACT

This paper presents some short considerations regarding the sycamore, the maple, the ash, the cherry and the wild service tree - Romanian native valuable broadleaved species. It is presented the spread of these species in Romania, their ecological demands, the recommended silviculture and some recent ICAS researches on the field.

**Keywords:** ash, maple, sycamore, valuable broadleaved trees, wild service tree.

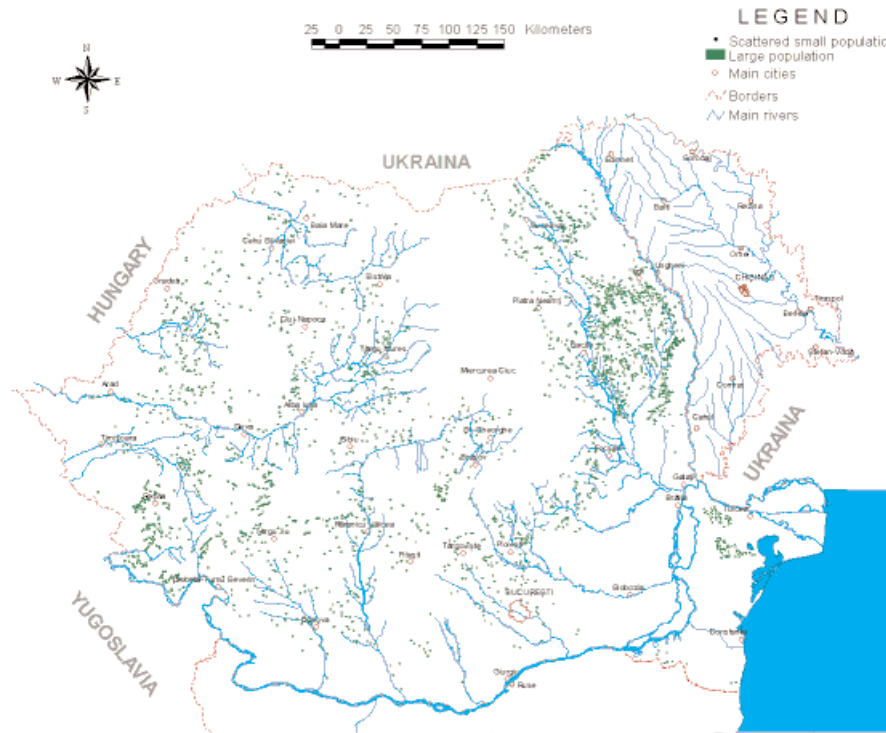
### INTRODUCTION

The general name of these species is not yet generally recognized. "Valuable broadleaved trees" is used by the English writers, "feuilleux precieux" by the French and "broadleaved tree species with valuable wood" by some Romanian specialists. Each of these names have some inconveniences: oak can be considered also a valuable broadleaved tree, the French name is too precious and not only the wood is valuable to these trees.

A personal definition for the valuable broadleaved trees is: species with a very high value for their wood, which are, usually, disseminated in forests and which have high ecological exigencies.

The native Romanian species included in this category are: the sycamore (*Acer pseudoplatanus*), the Norway maple (*Acer platanoides*), the ash (*Fraxinus excelsior*) the European sweet cherry (*Prunus avium*) and the wild service tree (*Sorbus torminalis*).





**Figure 2.** Map of natural distribution range of the ash in Romania (Blada I. and GIS Unit, ICAS Bucharest)

**Table 1.** Ecological and economical characteristics of valuable broadleaved species

Category	Characteristic	Sycamore	Maple	Ash	Cherry	Wild service tree
Competition	High class	****	****	****	***	**
	Growth	**	*	**	*	**
	Longevity	***	**	***	*	***
	Rooting	***	***	***	*	***
	Regeneration capacity	*****	*****	*****	**	**
	Vulnerability	****	****	****	***	****
Climatic exigencies	Juvenile concurrence	***	***	****	*****	*****
	Mature concurrence	***	***	***	*****	*****
	Light	**	****	***	*****	*****
	Heat	*	***	**	**	****
	Late frosts	*	*	***	*	**
	Precipitation	****	***	*****	**	****
Soil exigencies	Humidity	*****	****	*****	**	**
	Water	****	***	*****	**	**
	Humidity excess	**	***	***	*****	**
	Troficity	****	***	***	*****	****
Value	Minerals	***	*	****	**	****
	Comercial	***	**	**	****	*****
	Defects			Black heart	Heart wood rot	Brown heart

## Signification of Table 1 terms

Characteristic	Symbol
High class:	
-Very high (>30 m)	*****
-High (25-30 m)	****
-Medium (20-25 m)	***
-Low (<20 m)	*
<b>Growth:</b>	
-Rapid and continuous	*****
-Slow, but continuous	****
-Rapid and slow descrescent with age	***
-Rapid and fast descrescent with age	**
-Very rapid and very fast descrescent with age	*
<b>Longevity:</b>	
-Extrem high (>250 years)	*****
-Very high (180-250 ani)	****
-High (150-180 ani)	***
-Medium (100-150 ani)	**
-Low (<100 ani)	*
<b>Light, Heat, Precipitation, Humidity, Soil water, Soil troficity, Minerals</b>	
-Very exigent	*****
-Exigent	****
-Quite exigent	***
-Few exigent	**
<b>Concurrence, Late frosts, Soil humidity excess</b>	
-Very sensitive	*****
-Sensitive	****
-Quite sensitive	***
-Quite resisting	**
-Resisting	*
<b>Commercial value</b>	
-Very high	*****
-High	****
-Quite high	***
-Quite low	**

wild service tree), moister for ash or drier for wild service tree. Their commercial value is very high for wild service tree, high for cherry and quite high for sycamore and ash. In fact, the hierarchy of the all forest species concerning their prices is: wild service tree, undulated maple, cherry end so one.

The main defects of the wood of these species are: the forking and the black heart for the ash, the brown heart for the wild service tree and the heart wood rot for the cherry.

### THE SILVICULTURE OF THE ROMANIAN MAIN VALUABLE BROADLEAVED SPECIES

We can say that the silviculture of the valuable broadleaved species is a silviculture of tree and not a silviculture of stands.

Some species (the ash, the cherry) are fast growing, while other (the wild service

tree) has a slower rate of growing.

The natural regeneration is very good for the sycamore and maple (seed), the ash (seed and sprout), the cherry (root-sucker, seed and sprout) and the wild service tree (root-sucker, sprout and seed).

The cleanings have the character of a negative selection. They must have a moderate intensity. For these species are recommendable the thinning from below with high intensity and with the selection of the future trees. The cuttings for crown formation are indicated for that entire species.

In conclusion, for these species, is indicated a dynamic silviculture (or an intensive silviculture, or a silviculture of trees), which follows the production at relative slow ages (70 years for the cherry, 80 years for the wild service tree) of logs with high diameters (50 cm or more) and without any timber defects.

#### **RECENT ICAS RESEARCHES CONCERNING THE VALUABLE BROADLEAVED SPECIES**

The specialists for the Forest Research and Management Institute made new and interesting researches concerning the valuable broadleaved tree species. Between the most recent ones are:

Researches concerning the genetics of the sycamore, maple and ash made by dr. Blada I. (ICAS Bucharest), dr. Palada M. and drd. Popescu F. (ICAS Simeria).

Researches concerning the spread of valuable broadleaved species on ICAS forest districts made by Scarlatescu V. (ICAS Mihaesti).

Researches concerning the dormancy of ash, cherry, sycamore and wild service tree seeds made by dr. Farcas C. (ICAS Brasov).

Researches concerning the spread, the ecological conditions and the silvicultural methods for the conservation and culture of the wild service tree and the undulated maple, made by dr. Dinca L. (ICAS Brasov).

#### **REFERENCES**

- BASTIEN, Y., 1997, *Sylviculture des feuillus précieux*, ENGREF, Nancy, 13p.
- BOUDRU, M., 1989, *Forêt et sylviculture: sylviculture appliquée*, Les Presses Agronomiques de Gembloux, Gembloux, 248p.
- BOULET-GERCOURT, B., 1997, *Le merisier*, 2<sup>ème</sup> édition, IDF, Paris, 128p.
- DINCA, L., 1997, Cercetari privind rasp(ndirea, exigentele ecologice si masurile silviculturale aplicabile unor specii de foioase cu lemn valoros (paltin cret, sorb de c(mpie si cires), referat stiintific final, I.C.A.S. Bucuresti.
- DRAPIER, N., 1993/2, *Écologie de l'alisier torminal Sorbus torminalis (L.) Crantz*, Revue Forestière Française, XLV (3), p. 229-242.

- FRANC, A., RUCHAUD, F., 1996, Autécologie des feuillus précieux: frêne commun, merisier, érable sycomore, érable plane, CEMAGREF, Imprimerie Louis Jean, Gap, 170p.
- HUBERT, M., COURRAUD, R., 1998, Élagage et taille de formation des arbres forestiers, 2<sup>ème</sup> édition, IDF, Paris, 303p.
- KAUSCH-BLECKEN, VON SCHMELING (1994) Die Elsbeere.
- LANIER, L., RAMEAU, J.-C., KELLER, R., JOLY, H.-I., DRAPIER, N., SEVRIN, E., 1990, L'alisier torminal *Sorbus torminalis* (L.) Crantz, Revue Forestière Française, XLII (1), p. 13-34.
- NINGRE, F., CLUZEAU, C., LEGOFF, N., 1992, La fourchaison du frêne en plantation: causes, conséquences et contrôle, Revue Forestière Française, XLIV, no. spécial, p. 104-114.
- PILARD-LANDEAU, B., LEGOFF, N., 1996, Sylviculture du frêne, Bulletin technique, no. 31, ONF, p. 9-14.
- THILL, A., 1970, Le frêne et sa culture, Les Presses Agronomiques de Gembloux, A.S.B.L., Gembloux, 85p.