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Czech forest ecosystem classification

J. VIEWEGH[1] A. KUSBACH[2], M. MIKESKA[3]

[1]*Czech University of Agriculture, Faculty of Forestry, Prague, Czech Republic*
[2]*Institute for Forest Management, Kroměříž branch, Czech Republic*
[3]*Institute for Forest Management, Hradec Králové branch, Czech Republic*

ABSTRACT: Forest classification, made up by PLÍVA and PRŮŠA (PLÍVA 1971), has been used in the Czech Republic forestry since 1970. This classification is based on ecological factors of the environment. Edaphic conditions are at the first position, then climatic conditions follow (by their vertical [altitudinal] distribution mainly). These two factors form the basic construction called ecological grid (Table 1).

Keywords: forest classification; Czech Republic; ecological factors

Ecosystem classification of the Czech Republic's forests belongs to classification systems based on ecological factors of the environment. Forest classification, as a discipline used in practical forestry, was initially developed as a part of forest sociology and forest tree ecology in former Czechoslovakia. Pedological and climatological researchers study habitat factors and their relationships to forest stands. Since an ideal combination of plant sociology and ecology is rather difficult to make, classification of forests is connected either with the frame of phytocenology or it is built on a pedological basis into society reconstructions as a "stand typology". These two different approaches have influenced forest classification.

TYPOLOGICAL SYSTEM

"Typological System of Forest Management Planning Institute" is the official name of recently established forest classification. Taking into consideration the extensive changes of forest cover, resulting in changed phytocenoses and soil humus properties, respectively (degradation stages), the classification system proceeds, and methods alike, from the permanent environmental conditions. Besides humus form and phytocenosis, it also concentrates on determination of potential production (quality yield class). A forest site is the basic unit of growing conditions. Its definition is according to ZLATNÍK (1956) – "The forest site is an aggregate of natural geobiocenosis and all geobiocenoses originating from it, from the viewpoint of development, and partly geobiocenoses (geobiocenoids) changed to a certain extent, including development stages" (RANDUŠKA 1982, p. 162).

This typological forest classification, established by PLÍVA and PRŮŠA (PLÍVA 1971), has been used in Czech forestry since 1970. As the main part of natural forests has been changed to Norway spruce (*Picea abies*) monocultures for about 200 years, ecological habitat factors have been put in focus necessarily, firstly the soil properties and secondly altitudinal climatic zonality expressed by forest vegetation zones. These two dimensions make up so called ecological grid (Table 1).

The first dimension is made up by so called ecological series (groups). Each series is divided into several edaphic categories. The series has only one characteristic category – the basic category – the other are either secondary (insignificant) or transitional ones. Series are grouped into two big groups by their relation to soil water.

1. Edaphic series without significant soil water influence

(B) series – nutrient – rich (mesotrophic)
basic category: B – nutrient – rich
secondary categories:
- H – loamy; deep loamy soils and loess
- F – slope-stony; soils with ferns in the herb layer
- C – water-deficient; soils on basalts
- W – limestone; similar to C, but only on limestone

transitional category: S – nutrient-medium; transitional between (B) and (K) series

(K) series – acidic (oligotrophic)
basic category: K – acidic; grasses are abundant in the herb layer across all zones
secondary categories:
- I – compacted acid; Luvisols
- N – stony-slope; nutrient-poor soils; similar to F category

Table 1. Forest site complexes in ecological grid of Typological System of Forest Management Institute

Series	Categoria		Forest vegetation (altitudinal)zone									Categ.
			0 *Pinus sylvestris*	1 *Quercus*	2 *Fagus – Quercus*	3 *Quercus – Fagus*	4 *Fagus*	5 *Abies – Fagus*	6 *Picea – Fagus*	7 *Fagus – Picea*	8 *Picea*	9 *Pinus mugo*	
EXTREMUM	xerothermica	X	0X)[5] - *Pi de (x)*	1X - *CoQ x*	2X - *CoFQ x*	3X - *CoF x*	4X - *Fde (x)*						X
	humilis	Z	0Z - *Pi re*	1Z - *Q hum*	2Z - *FQ hum*	3Z - *QF hum*	4Z - *F hum*	5Z - *AF hum*	6Z - *PF hum*	7Z - *FP hum*	8Z - *SP (hum)*	9Z - *M*	Z
	saxatilis	Y	0Y - *Pi sax*		2Y - *FQ sax*	3Y - *QF sax*	4Y - *F sax*	5Y - *AF sax*	6Y - *PF sax*	7Y - *FP sax*	8Y - *P sax*	9Y - *Aa*	Y
ACIDOPHILUM	oligotrophica	M	0M - *(Q)Pi olig*	1M - *PiQ olig*	2M - *FQ olig*	3M - *QF olig*	4M - *F olig*	5M - *AF olig*	6M - *PF olig*	7M - *FP olig*	8M - *P olig*		M
	acidophila	K	0K - *(QF)Pi acid*	1K - *Q acid*	2K - *FQ acid*	3K - *QF acid*	4K - *F acid*	5K - *AF acid*	6K - *PF olig*	7K - *FP acid*	8K - *P acid*	9K - *M acid*	K
	illimerosa acidophila	I		1I - *(C)Q il acid*	2I - *FQ il acid*	3I - *QF il acid*	4I - *F il acid*	5I - *AF il acid*	6I - *PF il acid*				I
	lapidosa acidophila	N	0N - *PPi;PiP (lap acid)*	1N - *(C)Q lap acid*	2N - *FQ lap acid*	3N - *QF lap acid*	4N - *F lap acid*	5N - *AF lap acid*	6N - *PF lap acid*	7N - *FP lap acid*	8N - *P lap acid*		N
TROPHICUM	mesotrophica	S		1S - *(C)Q mtroph*	2S -*FQ mtroph*	3S - *QF mtroph*	4S - *F mtroph*	5S - *AF mtroph*	6S - *PF mtroph*	7S - *FP mtroph*	8S - *P mtroph*		S
	subxerothermica	C	0C - *Pi serp*	1C - *CQ subx*	2C - *FQ subx*	3C - *QF subx*	4C - *F subx*	5C - *AF subx*					C
	lapidosa mesotrophica	F				3F - *QF lap mtroph*	4F - *F lap mtroph*	5F - *AF lap mtroph*	6F - *PF lap mtroph*	7F - *FP lap mtroph*	8F - *P lap mtroph*		F
	illimerosa trophica	H		1H - *CQ il troph*	2H - *FQ il troph*	3H - *QF il troph*	4H - *F il troph*	5H - *AF il troph*	6H - *PF il troph*				H
	trophica	B		1B - *CQ troph*	2B - *FQ troph*	3B - *QF troph*	4B - *F troph*	5B - *AF troph*	6B - *PF troph*	7B - *FP troph*			B
	calcaria	W		1W - *(F)CQ cal*	2W - *FQ cal*	3W - *QF cal*	4W - *F cal*	5W - *AF cal*					W
ACEROSA	deluvia	D		1D - *CQac del*	2D - *FQac del*	3D - *QFac del*	4D - *Fac del*	5D - *AFac del*	6D - *PF ac del*				D
	acerosa lapidosa	A		1A - *AcCQ lap*	2A - *AcFQ lap*	3A - *TQFac lap*	4A - *TFac lap*	5A - *AcF lap*	6A - *AcPF lap*	7A - *AcFP lap*	8A - *AcP lap*		A
	saxatilis acerosa	J		1J - *CAc sax*		3J - *TAc sax*		5J - *UFrAc sax*	6J - *UPAc sax*				J
FRAXINOSA	alluvialis	L		1L - *UQ alluv*	2L - *FrQ alluv*	3L - *FrAl alluv*		5L - *FrAl mont*	6L - *Ali*				L
	vallidosa	U		1U - *QPo vall*	3U - *AcFr vall*			5U - *FrAc vall*					U
	humida	V		1V - *CQfr hmd*	2V - *FQfr hmd*	3V - *QFfr hmd*	4V - *Ffr hmd*	5V - *AFfr hmd*	6V - *PFfr hmd*	7V - *FPac hmd*	8V - *AcP hmd*		V

Series	Categoria		Forest vegetation (altitudinal)zone									Categ.
			0 *Pinus sylvestris*	1 *Quercus*	2 *Fagus – Quercus*	3 *Quercus – Fagus*	4 *Fagus*	5 *Abies – Fagus*	6 *Picea – Fagus*	7 *Fagus – Picea*	8 *Picea*	9 *Pinus mugo*	
VARIOHUMIDA	variohumida mesotrophica	O	0O - *Piqa varhmd-troph*	1O - *TQ varhmd-troph*	2O - *AFQ varhmd-troph*	3O - *AQF varhmd-troph*	4O - *QA varhmd-troph*	5O - *(F)A varhmd-troph*	6O - *PA varhmd-troph*	7O - *AP varhmd-troph*	8O - *Pqa varhmd-troph*		O
	variohumida acidophila	P	0P - *Piqa varhmd acid*	1P - *BQ varhmd acid*	2P - *Qa varhmd acid*	3P - *AQ varhmd acid*	4P - *QA varhmd acid*	5P - *Ap varhmd acid*	6P - *PA varhmd acid*	7P - *AP varhmd acid*	8P - *P varhmd acid*		P
	variohumida oligotrophica	Q	0Q - *Piqa varhmd olig*	1Q - *BQ varhmd olig*	2Q - *Qa varhmd olig*	3Q - *AQ varhmd olig*	4Q - *QA varhmd olig*	5Q - *Ap varhmd olig*	6Q - *PA varhmd olig*	7Q - *AP varhmd olig*	8Q - *P varhmd olig*		Q
PALUDOSA	paludosa oligotrophica	T	0T - *BPi (pal olig)*	1T - *BAl (pal olig)*	2T - *AQ pal olig*	3T - *AQp (pal olig)*	4T - *QAp pal olig*	5T - *Aqp pal olig*	6T - *PA pal olig*	7T -*AP pal olig*	8T - *P pal olig*		T
	paludosa mesotrophica	G	0G - *PPi pal (mtroph)*	1G - *Sal*	2G - *Qa pal mtroph*	3G - *AQp pal mtroph*	4G - *QAp pal mtroph*	5G - *Aqp pal mtroph*	6G - *PA pal mtroph*	7G - *AP pal mtroph*	8G - *P pal mtroph*		G
	turfosa	R	0R - *Pi turf*		3R - *P re turf acid*		4R - *P re turf mtroph*	5R - *PiP turf acid*	6R - *P turf mtroph*	7R - *P turf acid*	8R - *P turf mont*	9R - *M turf*	R

[1] see Appendix

transitory category: M – nutrient-poor; nutrient-very poor soils; transitional to Z category

(Z) series – extreme
basic category: Z – scrub; mainly on shallow soils derived from silicate rocks
secondary category: X – xerothermal
transitional category: Y – skeletal; transitions to all other stony soils but with water deficit

(J) series – maple; enriched with humus (eutrophic)
basic category: J – talus
transitional categories: A – stony-colluvial; transitional to F category
D – enriched-colluvial; transitional to H-category

2. Edaphic series with significant soil water influence

(L) series – ash (enriched with water and humus)
basic category: L – alluvial soils of floodplains; stream-edge sites
secondary category: U – 'unstable' soils of ravines and gulleys
transitory category: V – moist to wet; nitrophilous variant of O and G-categories

(P) series – gleyed (strongly fluctuating water tables)
basic category: P – acidic gleyed soils
secondary category: Q – nutrient-poor gleyed Podzols
transitory category: O – nutrient-medium gleyed soils; transitional to H and V categories

(G) series – wet
basic category: G – nutrient-medium Gleysols
secondary category:
T – nutrient-poor Gleysols
R – peats; organic soils.

Woody species dominants of the trophic series (see Appendix) are the basic units for indirect expression of forest vegetation zones, the second dimension of the ecological grid (Table 1). The trophic phytocenoses have a more clear differentiation to the altitudinal climate. In the case of two or three co-dominants, the last mentioned name indicates the main dominant tree species, and the other are important woody species admixtures. Nine forest vegetation zones have been established from lowlands to mountains, generally. All Scotch pine (*Pinus sylvestris*) forests are beyond the altitudinal zonality because of their very specific sites that are dependent on soil properties primarily. To emphasize this exceptionality, foresters have used very unfortunate classification as the 0^{th} forest vegetation zone.

The ecological category and forest vegetation zone create **forest site complex** (FSC); e.g. 3B (see Appendix). The number 3 signifies forest vegetation zone 3 (Oak-Beech) and B signifies the nutrient-rich B category. Besides these codes, each forest site complex has a common Czech name

(e.g. 'bohatá dubová bučina' for the complex 3B which can be translated into English as a 'nutrient-rich oak-beech forest' or into Latin as *Querceto-Fagetum mesotrophicum* (Table 1 + Appendix). Each forest site complex contains several forest site types that are usually called according to a dominant, edaphic indicator plant (herb) species. Thus the final code for forest site type includes three characters, e.g. 3B2, which means 'bohatá dubová bučina mařinková' in Czech, a 'nutrient-rich oak-beech forest with woodruff' in English, or *Querceto-Fagetum mesotrophicum – Galium odoratum* in Latin (VIEWEGH 2000). As it may be seen from Table 1, some of the categories are absent; for example in high-elevation forest vegetation zones, acidification occurs even at nutrient-rich sites when climate is cool and wet. Absence of some edaphic categories in low-elevation zones means either their absence in the Czech Republic's forests or that the categories have features characteristic of some other categories.

All details about forest site complexes (including sites) are described by PLÍVA (1971–1976), PLÍVA (1991), PLÍVA et al. (1991), VIEWEGH (2000) and PRŮŠA (2001), unfortunately in Czech only. But the authors prepare a detail CD with English text and illustrated by many characteristic pictures. This article could contribute to better contacts of Czech foresters with EC foresters.

Appendix

FSC	LATIN NAME	Forest site complex
Series extremum		**Extreme series**
Categoria xerothermica		**Xerothermal category**
0X	*Pinetum dealpinum (xerothermicum)*	Dealpine Pine
1X	*Corneto-Quercetum (xerothermicum)*	Cornelian Cherry-Oak
2X	*Corneto-Fagi-Quercetum (xerothermicum)*	Cornelian Cherry-(Beech)-Oak
3X	*Corneto-Fagetum (xerothermicum)*	Cornelian Cherry-Oak-Beech
4X	*Fagetum dealpinum (xerothermicum)*	Dealpine Beech
Categoria humilis		**Scrub category**
0Z	*Pinetum relictum*	Relict Pine
1Z	*Quercetum humile*	Scrub Oak
2Z	*Fageto-Quercetum humile*	Scrub Beech-Oak
3Z	*Querceto-Fagetum humile*	Scrub Oak-Beech
4Z	*Fagetum humile*	Scrub Beech
5Z	*Abieto-Fagetum humile*	Scrub Fir-Beech
6Z	*Piceeto-Fagetum humile*	Scrub Spruce-Beech
7Z	*Fageto-Piceetum humile*	Scrub Beech-Spruce
8Z	*Sorbeto-Piceetum (humile)*	Rowan-Spruce
9Z	*Mughetum*	Dwarf Pine
Categoria saxatilis		**Skeletal category**
0Y	*Pinetum saxatile*	Ravine Pine
2Y	*Fageto-Quercetum saxatile*	Skeletal Beech-Oak
3Y	*Querceto-Fagetum saxatile*	Skeletal Oak-Beech
4Y	*Fagetum saxatile*	Skeletal Beech
5Y	*Abieto-Fagetum saxatile*	Skeletal Fir-Beech
6Y	*Piceeto-Fagetum saxatile*	Skeletal Spruce-Beech
7Y	*Fageto-Piceetum saxatile*	Skeletal Beech-Spruce
8Y	*Piceetum saxatile*	Skeletal Spruce
9Y	*Arctoalpinum*	Skeletal alpine tundra
SERIES ACIDOPHILUM		**Oxylophytic series**
Categoria oligotrophica		**Nutrient-very poor category**
0M	*(Querceto)-Pinetum oligotrophicum*	Nutrient-very poor (Oak)-Pine
1M	*Pineto-Quercetum oligotrophicum (arenosum)*	Nutrient-very poor Pine-Oak
2M	*Fageto-Quercetum oligotrophicum*	Nutrient-very poor Beech-Oak
3M	*Querceto-Fagetum oligotrophicum*	Nutrient-very poor Oak-Beech
4M	*Fagetum oligotrophicum*	Nutrient-very poor Beech

5M	*Abieto-Fagetum oligotrophicum*	Nutrient-very poor Fir-Beech
6M	*Piceeto-Fagetum oligotrophicum*	Nutrient-very poor Spruce-Beech
7M	*Fageto-Piceetum oligotrophicum*	Nutrient-very poor Beech-Spruce
8M	*Piceetum oligotrophicum*	Nutrient-very poor Spruce
Categoria acidophila		**Acidic category**
0K	*(Querceto-Fagi-) Pinetum acidophilum*	Acidic (Oak-Beech-) Pine
1K	*Quercetum acidophilum*	Acidic Oak
2K	*Fageto-Quercetum acidophilum*	Acidic Beech-Oak
3K	*Querceto-Fagetum acidophilum*	Acidic Oak-Beech
4K	*Fagetum acidophilum*	Acidic Beech
5K	*Abieto-Fagetum acidophilum*	Acidic Fir-Beech
6K	*Piceeto-Fagetum acidophilum*	Acidic Spruce-Beech
7K	*Fageto-Piceetum acidophilum*	Acidic Beech-Spruce
8K	*Piceetum acidophilum*	Acidic Spruce
9K	*Mugheto-Piceetum (acidophilum)*	Acidic Dwarf Pine-Spruce
Categoria lapidosa acidophila		**Stony-acidic category**
0N	*Piceeto-Pinetum (lapidosum acidophilum)* resp. *Pineto-Piceetum (lapidosum acidophilum)*	Spruce-Pine and/or Pine-Spruce
1N	*(Carpineto)-Quercetum lapidosum acidophilum*	Stony-acidic (Hornbeam-) Oak
2N	*Fageto-Quercetum lapidosum acidophilum*	Stony-acidic Beech-Oak
3N	*Querceto-Fagetum lapidosum acidophilum*	Stony-acidic Oak-Beech
4N	*Fagetum lapidosum acidophilum*	Stony-acidic Beech
5N	*Abieto-Fagetum lapidosum acidophilum*	Stony-acidic Fir-Beech
6N	*Piceeto-Fagetum lapidosum acidophilum*	Stony-acidic Spruce-Beech
7N	*Fageto-Piceetum lapidosum acidophilum*	Stony-acidic Beech-Spruce
8N	*Piceetum lapidosum acidophilum*	Stony-acidic Spruce
Categoria illimerosa acidophila		**Compacted-acid Luvisols category**
1I	*(Carpineto-) Quercetum illimerosum acidophilum*	Compacted-acid (Hornbeam-) Oak
2I	*Fageto-Quercetum illimerosum acidophilum*	Compacted-acid Beech-Oak
3I	*Querceto-Fagetum illimerosum acidophilum*	Compacted-acid Oak-Beech
4I	*Fagetum illimerosum acidophilum*	Compacted-acid Beech
5I	*Abieto-Fagetum illimerosum acidophilum*	Compacted-acid Fir-Beech
6I	*Piceeto-Fagetum illimerosum acidophilum*	Compacted-acid Spruce-Beech
SERIES TROPHICUM		**Eutrophic series**
Categoria mesotrophica		**Fresh, nutrient-medium category**
1S	*(Carpineto-) Quercetum mesotrophicum*	Sandy (Hornbeam-) Oak
2S	*Fageto-Quercetum mesotrophicum*	Nutrient-medium Beech-Oak
3S	*Querceto-Fagetum mesotrophicum*	Nutrient-medium Oak-Beech
4S	*Fagetum mesotrophicum*	Nutrient-medium Beech
5S	*Abieto-Fagetum mesotrophicum*	Nutrient-medium Fir-Beech
6S	*Piceeto-Fagetum mesotrophicum*	Nutrient-medium Spruce-Beech
7S	*Fageto-Piceetum mesotrophicum*	Nutrient-medium Beech-Spruce
8S	*Piceetum mesotrophicum*	Nutrient-medium Spruce
Categoria fastigiosa-lapidosa mesotrophica		**Slope-stony nutrient-medium category**
3F	*Querceto-Fagetum lapidosum mesotrophicum*	Slope-stony Oak-Beech
4F	*Fagetum lapidosum mesotrophicum*	Slope-stony Beech
5F	*Abieto-Fagetum lapidosum mesotrophicum*	Slope-stony Fir-Beech
6F	*Piceeto-Fagetum lapidosum mesotrophicum*	Slope-stony Spruce-Beech
7F	*Fageto-Piceetum lapidosum mesotrophicum*	Slope-stony Beech-Spruce

8F	*Piceetum lapidosum mesotrophicum*	Slope-stony Spruce
Categoria subxerothermica		**Water-deficient category**
0C	*Pinetum serpentinicum*	Serpentine Pine
1C	*Carpineto-Quercetum subxerothermicum*	Water-deficient Hornbeam-Oak
2C	*Fageto-Quercetum subxerothermicum*	Water-deficient Beech-Oak
3C	*Querceto-Fagetum subxerothermicum*	Water-deficient Oak-Beech
4C	*Fagetum subxerothermicum*	Water-deficient Beech
5C	*Abieto-Fagetum subxerothermicum*	Water-deficient Fir-Beech
Categoria eutrophica		**Nutrient-rich category**
1B	*Carpineto-Quercetum eutrophicum*	Nutrient-rich Hornbeam-Oak
2B	*Fageto-Quercetum eutrophicum*	Nutrient-rich Beech-Oak
3B	*Querceto-Fagetum eutrophicum*	Nutrient-rich Oak-Beech
4B	*Fagetum eutrophicum*	Nutrient-rich Beech
5B	*Abieto-Fagetum eutrophicum*	Nutrient-rich Fir-Beech
6B	*Piceeto-Fagetum eutrophicum*	Nutrient-rich Spruce-Beech
7B	*Fageto-Piceetum eutrophicum*	Nutrient-rich Beech-Spruce
Categoria calcaria		**Limestone category**
1W	*(Fagi-) Carpineto-Quercetum calcarium*	Limestone Hornbeam (-Beech)-Oak
2W	*Fageto-Quercetum calcarium*	Limestone Beech-Oak
3W	*Querceto-Fagetum calcarium*	Limestone Oak-Beech
4W	*Fagetum calcarium*	Limestone Beech
5W	*Abieto-Fagetum calcarium*	Limestone Fir-Beech
Categoria illimerosa trophica		**Loamy category**
1H	*Carpineto-Quercetum illimerosum trophicum*	Loamy Hornbeam-Oak
2H	*Fageto-Quercetum illimerosum trophicum*	Loamy Beech-Oak
3H	*Querceto-Fagetum illimerosum trophicum*	Loamy Oak-Beech
4H	*Fagetum illimerosum trophicum*	Loamy Beech
5H	*Abieto-Fagetum illimerosum trophicum*	Loamy Fir-Beech
6H	*Piceeto-Fagetum illimerosum trophicum*	Loamy Spruce-Beech
SERIES ACEROSA		**Maple series**
Categoria deluvia		**Enriched-colluvial category**
1D	*Carpineto-Quercetum acerosum deluvium*	Enriched-colluvial Hornbeam-Oak
2D	*Fageto-Quercetum acerosum deluvium*	Enriched-colluvial Beech-Oak
3D	*Querceto-Fagetum acerosum deluvium*	Enriched-colluvial Oak-Beech
4D	*Fagetum acerosum deluvium*	Enriched-colluvial Beech
5D	*Abieto-Fagetum acerosum deluvium*	Enriched-colluvial Fir-Beech
6D	*Piceeto-Fagetum acerosum deluvium*	Enriched-colluvial Spruce-Beech
Categoria acerosa lapidosa		**Stony-colluvial category**
1A	*Aceri-Carpineto-Quercetum lapidosum*	Stony-colluvial Maple-Hornbeam-Oak
2A	*Aceri-Fageto-Quercetum lapidosum*	Stony-colluvial Maple-Beech-Oak
3A	*Tilii-Querceto-Fagetum acerosum lapidosum*	Stony-colluvial Lime-Oak-Beech
4A	*Tilieto-Fagetum acerosum lapidosum*	Stony-colluvial Lime-Beech
5A	*Acereto-Fagetum lapidosum*	Stony-colluvial Sycamore-Beech
6A	*Aceri-Piceeto-Fagetum lapidosum*	Stony-colluvial Sycamore-Spruce-Beech
7A	*Aceri-Fageto-Piceetum lapidosum*	Stony-colluvial Sycamore-Beech-Spruce
8A	*Acereto-Piceetum lapidosum*	Stony-colluvial Sycamore-Spruce
Categoria saxatilis acerosa		**Talus category**
1J	*Carpineto-Aceretum saxatile*	Hornbeam-Maple
3J	*Tilieto-Aceretum saxatile*	Lime-Maple

5J	*Ulmi-Fraxineto-Aceretum saxatile*	Talus (Elm-Ash)-Sycamore
6J	*Ulmi-Piceeto-Aceretum saxatile*	Talus (Elm-Spruce)-Sycamore
SERIES FRAXINOSA		**Ash series**
Categoria alluvialis		**Floodplain category**
1L	*Ulmeto-Quercetum alluviale*	Elm floodplain
2L	*Fraxineto-Quercetum alluviale*	Stream floodplain
3L	*Fraxineto-Alnetum alluviale*	Ash-Alder
5L	*Fraxineto-Alnetum montanum*	Montane Ash-Alder
6L	*Alnetum incanae*	Speckled Alder floodplain
Categoria vallidosa		**Ravine category**
1U	*Querceto-Populetum vallidosum*	Poplar floodplain
3U	*Acereto-Fraxinetum vallidosum*	Maple-Ash
5U	*Fraxineto-Aceretum vallidosum*	Moist Ash-Maple floodplain
Categoria humida		**Moist to wet category**
1V	*Carpineto-Quercetum fraxinosum humidum*	Moist to wet Hornbeam-Oak
2V	*Fageto-Quercetum fraxinosum humidum*	Moist to wet Beech-Oak
3V	*Querceto-Fagetum fraxinosum humidum*	Moist to wet Oak-Beech
4V	*Fagetum fraxinosum humidum*	Moist to wet Beech
5V	*Abieto-Fagetum fraxinosum humidum*	Moist to wet Fir-Beech
6V	*Piceeto-Fagetum fraxinosum humidum*	Moist to wet Spruce-Beech
7V	*Fageto-Piceetum acerosum humidum*	Moist to wet Beech-Spruce
8V	*Acereto-Piceetum humidum*	Moist to wet Sycamore-Spruce
SERIES VARIOHUMIDA		**Gleyic series**
Categoria variohumida mesotrophica		**Nutrient-medium gleyic category**
0O	*Pinetum quercino-abietinum variohumidum mesotrophicum*	Nutrient-medium Fir-Oak-Pine
1O	*Tilieto-Quercetum variohumidum mesotrophicum*	Nutrient-medium Lime-Oak
2O	*Abieto-Fagi-Quercetum variohumidum mesotrophicum*	Nutrient-medium Fir-(Beech)-Oak
3O	*Abieti-Querceto-Fagetum variohumidum mesotrophicum*	Nutrient-medium Fir-Oak-Beech
4O	*Querceto-Abietum variohumidum mesotrophicum*	Nutrient-medium Oak-Fir
5O	*(Fageto-) Abietum variohumidum mesotrophicum*	Nutrient-medium (Beech-) Fir
6O	*Piceeto-Abietum variohumidum mesotrophicum*	Nutrient-medium Spruce-Fir
7O	*Abieto-Piceetum variohumidum mesotrophicum*	Nutrient-medium Fir-Spruce
8O	*Piceetum variohumidum mesotrophicum*	Nutrient-medium Spruce
Categoria variohumida acidophila		**Acidic gleyic category**
0P	*Pinetum quercino-abietinum variohumidum acidophilum*	Acidic Fir-Oak-Pine
1P	*Betuleto-Quercetum variohumidum acidophilum*	Acidic Birch-Oak
2P	*Quercetum abietinum variohumidum acidophilum*	Acidic Oak
3P	*Abieto-Quercetum variohumidum acidophilum*	Acidic Fir-Oak
4P	*Querceto-Abietum variohumidum acidophilum*	Acidic Oak-Fir
5P	*Abietum piceosum variohumidum acidophilum*	Acidic Fir
6P	*Piceeto-Abietum variohumidum acidophilum*	Acidic Spruce-Fir
7P	*Abieto-Piceetum variohumidum acidophilum*	Acidic Fir-Spruce
8P	*Piceetum variohumidum acidophilum*	Acidic Spruce
Categoria variohumida oligotrophica		**Nutrient-poor gleyic category**
0Q	*Pinetum quercino-abietinum variohumidum oligotrophicum*	Nutrient-poor Fir-Oak-Pine
1Q	*Betuleto-Quercetum variohumidum oligotrophicum*	Nutrient-poor Birch-Oak
2Q	*Quercetum abietinum variohumidum oligotrophicum*	Nutrient-poor Oak
3Q	*Abieto-Quercetum variohumidum oligotrophicum*	Nutrient-poor Fir-Oak
4Q	*Querceto-Abietum variohumidum oligotrophicum*	Nutrient-poor Oak-Fir

5Q	*Abietum piceosum variohumidum oligotrophicum*	Nutrient-poor Fir
6Q	*Piceeto-Abietum variohumidum oligotrophicum*	Nutrient-poor Spruce-Fir
7Q	*Abieto-Piceetum variohumidum oligotrophicum*	Nutrient-poor Fir-Spruce
8Q	*Piceetum variohumidum oligotrophicum*	Nutrient-poor Spruce
SERIES PALUDOSA		**Wet series**
Categoria paludosa oligotrophica		**Nutrient-poor wet category**
0T	*Betuleto-Pinetum (paludosum oligotrophicum)*	Nutrient-poor wet Birch-Pine
1T	*Betuleto-Alnetum (paludosum oligotrophicum)*	Nutrient-poor wet Birch-Alder
2T	*Abieto-Quercetum paludosum oligotrophicum*	Nutrient-poor wet Fir-Oak
3T	*Abieto-Quercetum piceosum paludosum oligotrophicum*	Nutrient-poor wet Fir-Spruce-Oak
4T	*Querceto-Abietum piceosum paludosum oligotrophicum*	Nutrient-poor wet Oak-Fir
5T	*Abietum quercino-piceosum paludosum oligotrophicum*	Nutrient-poor wet Oak-Spruce-Fir
6T	*Piceeto-Abietum paludosum oligotrophicum*	Nutrient-poor wet Spruce-Fir
7T	*Abieto-Piceetum paludosum oligotrophicum*	Nutrient-poor wet Fir-Spruce
8T	*Piceetum paludosum oligotrophicum (humilis)*	Nutrient-poor wet Scrub Spruce
Categoria paludosa mesotrophica		**Nutrient-medium wet category**
0G	*Piceeto-Pinetum paludosum (mesotrophicum)*	Nutrient-medium Gleysols Spruce-Pine
1G	*Saliceto-Alnetum*	Willow-Alder
2G	*Quercetum abietinum paludosum mesotrophicum*	Nutrient-medium wet Fir-Oak
3G	*Abieto-Quercetum piceosum paludosum mesotrophicum*	Nutrient-medium wet Fir (-Spruce)-Oak
4G	*Querceto-Abietum piceosum paludosum mesotrophicum*	Nutrient-medium wet Oak-Fir
5G	*Abietum quercino-piceosum paludosum mesotrophicum*	Nutrient-medium wet Fir
6G	*Piceeto-Abietum paludosum mesotrophicum*	Nutrient medium wet Spruce-Fir
7G	*Abieto-Piceetum paludosum mesotrophicum*	Nutrient-medium wet Fir-Spruce
8G	*Piceetum paludosum mesotrophicum*	Nutrient-medium wet Spruce
Categoria turfosa		**Peat category**
0R	*Pinetum turfosum*	Peat Pine
3R	*Piceetum relictum turfosum acidophilum*	Acidic Relict Spruce
4R	*Piceetum relictum turfosum mesotrophicum*	Nutrient-medium Relict Spruce
5R	*Pineto-Piceetum turfosum acidophilum*	Peat Pine-Spruce
6R	*Piceetum turfosum mesotrophicum*	Nutrient-medium Peat Spruce
7R	*Piceetum turfosum acidophilum*	Acidic Peat Spruce
8R	*Piceetum turfosum montanum*	Raised Bog Spruce
9R	*Mughetum turfosum*	Raised Bog Dwarf Pine

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References

PLÍVA K., 1971–1976. Typologický systém ÚHÚL. Brandýs nad Labem, ÚHÚL: 119.

PLÍVA K., 1991. Přírodní podmínky v lesním plánování. Funkčně integrované lesní hospodářství, 1. díl. Brandýs nad Labem, ÚHÚL: 261.

PLÍVA K. et al., 1991. Modely hospodářských opatření podle přírodních podmínek a funkce lesa. Funkčně integrované lesní hospodářství, 3. díl. Brandýs nad Labem, ÚHÚL: 132.

PRŮŠA E., 2001. Pěstování lesů na typologických základech. Kostelec nad Černými lesy, Lesnická práce: 593, 1 CD.

RANDUŠKA D., 1982. Forest typology in Czechoslovakia. In: JAHN G. (ed.), Application of Vegetation Science to Forestry. Handbook of Vegetation Science, Vol. 12. The Hague, Dr. W. Junk Publ.: 147–178.

VIEWEGH J., 2000. Klasifikace lesních společenstev (se zaměřením na lesnictví). In: VIEWEGH J. (ed.), Problematika lesnické typologie II. Sbor. přísp. ze sem. Praha, ČZU, LF: CD.

ZLATNÍK A., 1956. Nástin lesnické typologie na biogeocenologickém základu a rozlišení československých lesů podle skupin lesních typů. In: POLANSKÝ B. (ed.), Pěstování lesů 3. Praha, SZN: 317–401.

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Česká lesnická klasifikace

J. VIEWEGH[1], A. KUSBACH[2], M. MIKESKA[3]

[1]*Česká zemědělská univerzita, Lesnická fakulta, Česká republika*

[2]*Ústav pro hospodářskou úpravu lesů, pobočka Kroměříž, Česká republika*

[3]*Ústav pro hospodářskou úpravu lesů, pobočka Hradec Králové, Česká republika*

ABSTRAKT: Lesnická klasifikace, sestavená PLÍVOU a PRŮŠOU (PLÍVA 1971), je v lesnictví České republiky používaná od r. 1970. Tato klasifikace je založena na ekologických faktorech prostředí. Na prvním místě to jsou půdní poměry, následovány podmínkami klimatickými (ve smyslu jejich vertikální pásmovitosti). Tyto dva faktory tvoří základní kostru, nazývanou také ekologická síť (tab. 1).

Klíčová slova: lesnická klasifikace; Česká republika; ekologické faktory

Český lesnický klasifikační systém je používán od r. 1970. Vychází ze ZLATNÍKOVY (1956) definice lesního typu: „Lesní typ je soubor lesních biocenóz, původních i změněných a jejich vývojových stadií včetně prostředí, tedy geobiocenóz vývojově k sobě patřících." Je jednotkou s úzkým ekologickým rozpětím pro růst dřevin, jejich produkci a obnovu a v důsledku toho i pro žádoucí druhové a prostorové složení porostů s podobnou pěstební technikou.

Lesní typ je tedy část lesa, zahrnující vše, co se nachází na ploše jedné původní geobiocenózy, s jednotnými ekologickými či růstovými podmínkami a s určitým rozpětím potenciální produkce dřevin původních i nepůvodních. Patří sem se svým prostředím fytocenózy přírodní (dnes již většinou hypotetické), přirozené, hospodařením změněné i fytocenózy věkových stadií včetně pasečného.

V praxi ÚHÚL je lesní typ charakterizován význačnou druhovou kombinací příslušné fytocenózy, půdními vlastnostmi, výskytem v terénu a potenciální bonitou dřevin. Charakteristiku doplňují poznatky o proměnlivosti ve vývoji fytocenózy a degradačních stadiích, poznatky o růstových zákonitostech, vyjádřené růstovými křivkami dřevin podle lesních typů a některé praktické závěry vyplývající z provozního cíle a jeho realizace.

Pro označení lesních typů se používají symboly (např. 4F1 nebo někdy $4F_1$), z nichž vychází i pojmenování lesního typu (svahová bučina kapradinová), která se u oblastní varianty rozšiřuje o její význačný nebo diferenciální znak stanoviště (roklinová). Vyšší typologickou jednotkou je soubor lesních typů, který spojuje lesní typy podle ekologické příbuznosti, vyjádřené hospodářsky významnými vlastnostmi stanoviště (svahová bučina – 4F). Soubory lesních typů jsou vymezeny půdními kategoriemi (horizontálně) a lesními vegetačními stupni (vertikálně).

I když je Typologický systém ÚHÚL používán tak dlouhou dobu, končí jeho znalost za hranicemi ČR. V současné době, kdy se neustále vypracovávají nové elaboráty pro potřebu EU, je nemyslitelné používat české syntaxonomické jednotky. Proto se objevují neustále nové obměny těchto jednotek (většinou v angličtině). Často jsou výsledkem doslovných překladů, kterým cizinec – příjemce – obsahově nerozumí. Proto se autoři článku přiklonili k verzi latinské, která by byla pro většinu odborníků srozumitelná. Anglické vytvořené syntaxonomické jednotky jsou jen jejich doplňkem. Takto vytvořené syntaxonomické jednotky by měly sjednotit písemné materiály vypracovávané pro zahraničí.

Corresponding author:

Doc. Ing. JIŘÍ VIEWEGH, CSc., Česká zemědělská univerzita, Lesnická fakulta, 165 21 Praha 6-Suchdol, Česká republika
tel.: + 420 224 383 401, fax: + 420 220 923 132, e-mail: viewegh@lf.czu.cz