UNIVERSITY OF WEST HUNGARY / WESTUNGARISCHE UNIVERSITÄT
DEPARTMENT OF BOTANY / LEHRSTUHL FÜR BOTANIK

TILIA

Editor / Herausgeber:

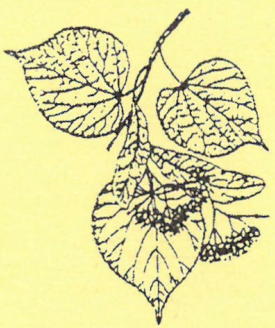
BARTHA, DÉNES

Vol. VII. Supplementum

DENDROLOGICAL STUDIES / DENDROLOGISCHE STUDIEN

Compiled by / Zusammengestellt von:

BARTHA, DÉNES



SOPRON

1999

UNIVERSITY OF WEST HUNGARY / WESTUNGARISCHE UNIVERSITÄT
DEPARTMENT OF BOTANY / LEHRSTUHL FÜR BOTANIK

T I L I A

Editor / Herausgeber:

BARTHA, DÉNES

Vol. VII. Supplementum

DENDROLOGICAL STUDIES / DENDROLOGISCHE STUDIEN

Compiled by / Zusammengestellt von:

BARTHA, DÉNES

SOPRON

1999

UNIVERSITY OF WEST HUNGARY / WESTUNGARISCHE UNIVERSITÄT
DEPARTMENT OF BOTANY / LEHRSTUHL FÜR BOTANIK

T I L I A

Editor / Herausgeber:

BARTHA, DÉNES

Vol. VII. Supplementum

DENDROLOGICAL STUDIES / DENDROLOGISCHE STUDIEN

Compiled by / Zusammengestellt von:

BARTHA, DÉNES

SOPRON

1999

T I L I A

Journal of Botany / Botanische Fachzeitschrift

ISSN 1219 - 3003
ISBN 963 7180 72 9

Postal address:

University of West Hungary, Department of Botany,
H-9401 Sopron, P.O.Box 132

Anschrift:

Westungarische Universität, Lehrstuhl für Botanik,
H-9401 Sopron, Postfach 132

https://doi.org/10.64610/tilia.1999.07k.ksz.01

Tilia	Vol. 7. Suppl. (1999)	3-30.

Bewertung der Dendroflora Europas auf Grund der Lebensformen

DÉNES BARTHA

Einleitung

Seit langem befassen sich die Forscher mit der Gruppierung der Pflanzen auf Grund ihres Erscheinungsbildes. Im Laufe dieser Arbeit spielen neben den rein morphologischen Kennzeichen auch die phänologischen und ökologischen Kriterien eine wichtige Rolle. Die Lebensform ist nichts anderes als eine Gruppe von Pflanzen mit ähnlicher morphologischer Ausprägung und ähnlichem Lebensrhytmus, welche sich an gewisse besondere Lebensbedingungen angepaßt haben (RAUNKIAER, 1907/1937).

Schon die alten Griechen haben sich mit diesem Thema befaßt, z. B. THEOPHRAST in seiner Pflanzenkunde (GAMS, 1918). Als Begründer der eigentlichen Lebensformlehre kann jedoch kein Geringer als A. von HUMBOLDT betrachtet werden (DU RIETZ, 1931), der in seinem Werk (*Ideen zu einer Physiognomik der Gewächse*), das im Jahre 1806 erschien, 16 Hauptformen unterscheidet (z. B. Kaktus-, Bananen-, Palmenform, Farne, Gräser, usw.). Seit der Tätigkeit von HUMBOLDT wurden zur Gruppierung der Pflanzenarten zahlreiche Versuche unternommen. Von diesen ist das System des dänischen Botanikers RAUNKIAER am bedeutendsten, welches in der Pflanzensoziologie bis zum heutigen Tag angewendet wird. Als Grundlage des Systems von RAUNKIAER dient die Anordnung und der Schutz der Überdauerungsorgane in der ungünstigen Jahreszeit (Trockenzeit oder Winter). Die zu erforschende Frage bezieht sich also darauf, wie sich die Pflanzen an die rhytmischen Erscheinungen des Makroklimas anpassen. Das RAUNKIAER'sche Grundprinzip hat allen späteren Lebensformsystemen als Grundlage gedient (z. B. BARKMANN 1979, 1988; BRAUN-BLANQUET, 1964; ELLENBERG, 1956). Seitdem ist das RAUNKIAER'sche System in bedeutendem Maße weiterentwickelt und differenziert worden. In diesem Bereich muß die wissenschaftliche Tätigkeit von ELLENBERG und MUELLER-DOMBOIS (1967) hervorgehoben werden, deren System sich auf alle Pflanzenarten der Erde erstreckt, – natürlicherweise mit Anwendung grober Kategorien. In den jüngsten Jahren hat DIERSCHKE (1994) ein Lebensformsystem für die mitteleuropäische Flora erschaffen. Darauf basierend wurde versucht, für die europäische Dendroflora ein Lebensformsystem zusammenzustellen, dessen Grundlagen und Kriterien hiermit dargelegt sind.

Grundlagen des Lebensform-Systems der Dendroflora Europas

Die Anordnungsprinzipien der Lebensformen zeigt die Tabelle 1. Die beiden ersten Anordnungsprinzipien des Systems beziehen sich auf die Sproßachse. Auf diese Weise können die Pflanzenarten je nach dem unterschieden werden, ob ihre Sproßachse vollständig, bis zur Zweigende oder bloß teilweise, nur am Grund verholzt. Je nach der Weise und der Richtung der Verzweigung ist es ebenfalls möglich, verschiedene Gruppen zusammenzustellen. Die folgenden zwei Anordnungsprinzipien beziehen sich auf die Blätter. Auf Grund der Blattausdauer sowie des Blatt-typs kann man je drei Gruppen ausgestalten. Zuletzt müssen im Laufe der Klassifizierung die Möglichkeiten der vegetativen Vermehrung untersucht werden.

Tabelle 1. Hierarchische Anordnungsprinzipien der Lebensformen

1. VERHOLZUNGSGRAD DER SPROSSACHSEN				
frut	–	frutescentia	–	**vollverholzt**
suff	–	suffrutescentia	–	**teilverholzt**
2. VERZWEIGUNG UND AUSRICHTUNG DER SPROSSACHSEN				
scap	–	scaposa	–	**baumartig**
caesp	–	caespitosa	–	**strauchartig**
scand	–	scandentia	–	**lianenartig**
ep	–	epiphyta	–	**epifitenartig**
rep	–	repentia / reptantia	–	**spalierartig**
3. BLATTAUSDAUER				
semp	–	sempervirentia	–	**immergrün**
aest	–	aestivalia	–	**sommergrün**
hib	–	hibernalia	–	**überwinternd grün**
4. BLATT–TYP				
ace	–	acerosa	–	**nadelartig**
fron	–	frondosa	–	**laubartig**
cor	–	coriacea	–	**hartlaubartig**
5. VEGETATIVE VERMEHRUNG DURCH WURZELAUSSCHLAG				
sob	–	sobolifera	–	**wurzelausschlagfähig**

Die holzigen Pflanzen sind in zwei große RAUNKIER'sche Gruppen einreihbar, und zwar in die Gruppe der Phanerophyten und in diejenige der Chamaephyten. Zu den Phanerophyten gehören die Arten, deren Größe in vollentwickeltem Zustand etwa 50 cm übersteigt, und ihre Erneuerungsknospen deshalb in beträchtlicher Höhe über der Bodenoberfläche vorhanden sind. (Die Überdauerungsorgane befinden sich weit über dem Boden an langlebigen, negativ geotropen Sproßachsen (DIERSCHKE, 1994).)

Die Bäume besitzen je einen (oder nur wenigen) aufrechten Einzelstamm, dessen Verzweigung sich im Kronenbereich befindet und das Zweigsystem akroton gefördert ist. Die Sträucher sind vorwiegend aufrecht wachsende, vom Grund auf verzweigte Gehölze mit basiton geförderten Verzweigungs-systemen und mit mehreren, nebeneinander stehenden, gleichwertigen, aufrechten oder aufsteigenden Stämmen. Die Lianen wachsen auf einer Stütze empor und haben eine basal bis spitzenwärts geförderten Erneuerungstrieben. Ihre Klassifizierung geschieht in abweichender Weise, in erster Linie auf Grund ihres Haftorgans (WILMANNS, 1983). Die Epiphyten wachsen auf anderen Pflanzen bzw. auf irgendwelcher Stütze. (Die Anordnungsprinzipien der Phanerophyten siehe in Tab. 2.)

Die Gruppe der Chamaephyten besteht aus Pflanzenarten mit reichlich verzweigtem Sproßsystem. Bei diesen Arten befinden sich die Erneuerungsknospen an ausdauernden Sproßteilen unmittelbar über der Bodenoberfläche, maximal bis zu einer Höhe von 50 cm. Die kurzgliedrige Sproßachse der Zwergsträucher verholzt vollständig. Diese Pflanzenarten können in zwei Untergruppen aufgeteilt werden, und zwar in die Untergruppe der aufrechten und in diejenige der kriechenden Spalier-Zwergsträucher. Der obere Teil des Sproßsystems der Halbsträucher stirbt in der ungünstigen Jahreszeit ab, bloß der untere, erneuerungsknospentragende Teil verholzt (Die Anordnungs-prinzipien der Chamaephyten siehe in Tab. 3.).

Tabelle 2. Anordnungsprinzipien der Phanerophyten

PHANEROPHYTEN

1. Verzweigung und Ausrichtung der Sprossachsen

a.	*scap*	–	Bäume
b.	*caesp*	–	Sträucher
c.	*scand*	–	Lianen
d.	*ep*	–	Epiphyten

2. Blattausdauer

a.	*semp*	–	immergrün
b.	*aest*	–	sommergrün (winterkahl)
c.	*hib*	–	überwinternd grün

3. Blatt-typ

a.	*ace*	–	Nadelblatt
b.	*fron*	–	Laubblatt
c.	*cor*	–	Hartlaubblatt

4. Vegetative Vermehrung durch Wurzelausschlag

a.	*sob*	–	wurzelausschlagfähig

Tabelle 3. Anordnungsprinzipien der Chamaephyten

CHAMAEPHYTEN

1. Verholzungsgrad der Sprossachsen

a.	*frut*	–	Zwergsträucher
b.	*suff*	–	Halbsträucher

2. Verzweigung und Ausrichtung der Sprossachsen

a.	*caesp*	–	Aufrechte Chamaephyten
b.	*rep*	–	Spalier-Chamaephyten
c.	*scand*	–	Kletternde Chamaephyten

3. Blattausdauer

a.	*semp*	–	immergrün
b.	*aest*	–	sommergrün
c.	*hib*	–	überwinternd grün

4. Vegetative Vermehrung durch Wurzelausschlag

a.	*sob*	–	wurzelausschlagfähig

Die Lebensformtypen der Dendroflora Europas

Auf Grund der oben detaillierten Lebensformsystem konnte man die Arten der europäischen Dendroflora einzureihen. Die Nomenklatur folgt nach TUTIN et al. (1964-1980) und PRISZTER (1983). Die europäische Dendroflora beträgt knapp 1200 Arten, inklusive die zwei Palmenarten, die in das Lebensformsystem nicht eingereiht worden sind. Die Anzahl der Lebensformen zeigt die Tabelle 4., die Einreihung der einzelnen Arten befindet sich in den Anhängen 1 und 2.

Tabelle 4. Abkürzungen und Anteile der Lebensformen der Dendroflora Europas

Abkürzung	Lebensformen	Anzahl
P	**Phanerophyten**	**560**
P scap	**Bäume**	162
P scap semp	Immergrüne Bäume	40
P scap semp ace	*Nadelbäume*	*30*
P scap semp cor	*Hartlaubbäume*	*10*
P scap aest	Sommergrüne (winterkahle) Bäume	117
P scap aest ace	*Nadelbäume*	*2*
P scap aest fron	*Laubbäume*	*115*
P scap aest fron	Ohne Ausläufer	107
P scap aest fron sob	Mit unterirdischen Ausläufern	8
P caesp	**Sträucher**	371
P caesp semp	Immergrüne Sträucher	47
P caesp semp ace	*Nadelsträucher*	*12*
P caesp semp cor	*Hartlaubsträucher*	*35*
P caesp aest	Sommergrüne (winterkahle) Sträucher	311
P caesp aest	Ohne Ausläufer	278
P caesp aest sob	Mit unterirdischen Ausläufern	33
P caesp hib	Überwinternd grüne Sträucher	13
P scand	**Lianen**	23
P scand semp	Immergrüne Lianen	6
P scand aest	Sommergrüne Lianen	17
P scand aest cirr	*Rankenpflanzen*	*1*
P scand aest vol	*Windenpflanzen*	*12*
P scand aest plec	*Spreizklimmer*	*4*
P ep	**Epiphyten**	4
P ep semp	Immergrüne Epiphyten	3
P ep aest	Sommergrüne Epiphyten	1
C	**Chamaephyten**	**638**
C frut	**Zwergsträucher**	192
C frut caesp	Aufrechte Zwergsträucher	130
C frut caesp semp	*Immergrüne aufrechte Zwergsträucher*	*45*
C frut caesp semp	Ohne Ausläufer	38
C frut caesp semp sob	Mit Ausläufern	7
C frut caesp aest	*Sommergrüne aufrechte Zwergsträucher*	*77*
C frut caesp aest	Ohne Ausläufer	74
C frut caesp aest sob	Mit Ausläufern	3
C frut caesp hib	*Überwinternd grüne aufrechte Zwergsträucher*	*8*
C frut caesp hib	Ohne Ausläufer	8
C frut caesp hib sob	Mit Ausläufern	-
C frut rep	Spalier - Zwergsträucher	62
C frut rep semp	*Immergrüne Spalier - Zwergsträucher*	*25*
C frut rep aest	*Sommergrüne Spalier - Zwergsträucher*	*32*
C frut rep hib	*Überwinternd grüne Spalier - Zwergsträucher*	*5*
C suff	**Halbsträucher**	446
C suff caesp	Aufrechte Halbsträucher	383
C suff rep	Kriechende Halbsträucher	60
C suff rep semp	*Immergrüne kriechende Halbsträucher*	*4*
C suff rep aest	*Sommergrüne kriechende Halbsträucher*	*45*
C suff rep hib	*Überwinternd grüne kriechende Halbsträucher*	*11*
C suff scand	Kletternde Halbsträucher	3

Zusammenfassung

Der Verfasser hat die Arten der europäischen Dendroflora in einem Lebensformsystem eingereiht. Die hierarchischen Anordnungsprinzipien des Lebensformsystems sind die Verholzung, Verzweigung und Ausrichtung der Sprossachse, die Blattausdauer, der Blatttyp und die vegetative Vermehrungsfähigkeit durch Wurzelausschlag. In dem Lebensformsystem befindet sich 31 Lebensformtypen, die innerhalb der Phanerophyten zu 4, innerhalb der Chamaephyten zu 2 Haupttypen gehören. Laut Flora Europaea wurden 1198 holzige Art eingeteilt.

Literatur

BARKMANN, J. J. (1979): The investigation of vegetation texture and structure. In: WERGER, M. J. A. (ed.): The study of vegetation. – Junk, Hague, p. 123–160.

BARKMANN, J. J. (1988): New system of plant growth forms and phenological plant types. In: WERGER M. J. A. et al. (eds.): Plant form and vegetation structure. – Junk, Hague–Boston–London, p. 9–44.

BRAUN-BLANQUET, J. (1964): Pflanzensoziologie. Grundzüge der Vegetationskunde. – Springer, Berlin–Wien–New York, pp. 865.

DIERSCHKE, H. (1994): Pflanzensoziologie. – Eugen Ulmer, Stuttgart.

DU RIETZ, G. E. (1931): Life forms of terrestrial flovering plants. – Acta Phytogeographica Suecica **3**(1): 1–95.

ELLENBERG, H. – MUELLER-DOMBOIS, D. (1967): A key to Raunkiaer plant life forms with revised subvisions. – Ber. Geobot. Inst. ETH Stiftung Rübel **37**: 56–73.

ELLENBERG, H. (1956): Aufgaben und Methoden der Vegetationskunde. In: WALTER, H. (Hrsg.): Einführung in die Phytologie, Bd. 4, Teil 1. – Ulmer, Stuttgart, p. 1–136.

GAMS, H. (1918): Prinzipienfragen der Vegetationsforschung. Ein Beitrag zur Begriffsklärung und Methodik der Biocoenologie. – Diss Univ. Zürich. Vierteljahrschr. Naturf. Ges. Zürich **63**: 1–125.

PRISZTER, SZ. (1983): Arbores fruticesque Europae. Vocabularium octo linguis redactum. – Akadémiai Kiadó, Budapest. pp. 300.

RAUNKIAER, C. (1907/1937): Planteriges Liusformer og deres Betydning for Geografie. – Kjöbenhavn, Kristiana (Engl. Übers. 1937 von H. GILBERT-CARTER: Plant life forms. – Clarendon Press, Oxford, pp. 104.)

TUTIN, T. G. – HEYWOOD, V. H. et al. (1964-80): Flora Europaea I-V. – University Press, Cambridge.

WILMANNS, O. (1983): Lianen in mitteleuropäischen Pflanzengesellschaften und ihre Einnischung. – Tüxenia **3**: 343–358.

Anhang 1. Die Abkürzungen der Familien und Unterfamilien

Aceraceae	Ace	Liliaceae	Lil
Anacardiaceae	Ana	Linaceae	Lin
Apocynaceae	Apo	Loranthaceae	Lor
Aquifoliaceae	Aqu	Rosaceae subf. Maloideae	Malo
Araliaceae	Ara	Malvaceae	Malv
Aristolochiaceae	Ari	Moraceae	Mor
Asclepiadaceae	Asc	Myricaceae	Myri
Berberidaceae	Ber	Myrsinaceae	Myrs
Betulaceae	Bet	Myrtaceae	Myrt
Boraginaceae	Bor	Nyctaginaceae	Nyc
Buxaceae	Bux	Oleaceae	Ole
Caesalpiniaceae	Caes	Palmae	Pal
Campanulaceae	Cam	Pinaceae	Pin
Capparidaceae	Capp	Plantaginaceae	Plan
Caprifoliaceae	Capr	Platanaceae	Plat
Caryophyllaceae	Car	Plumbaginaceae	Plu
Celastraceae	Cel	Polygalaceae	Polygal
Chenopodiaceae	Chen	Polygonaceae	Polygon
Cichorioideae	Cich	Primulaceae	Pri
Cistaceae	Cis	Rosaceae subf. Prunoideae	Pru
Cneoraceae	Cne	Pyrolaceae	Pyr
Compositae	Com	Ranunculaceae	Ran
Coriariaceae	Cori	Resedaceae	Res
Cornaceae	Corn	Rhamnaceae	Rham
Corylaceae	Cory	Rosaceae subf. Rosoideae	Ros
Cruciferae	Cru	Rubiaceae	Rub
Cupressaceae	Cup	Salicaceae	Sal
Dipsacaceae	Dip	Santalaceae	San
Elaeagnaceae	Elae	Scrophulariaceae	Scr
Empetraceae	Emp	Solanaceae	Sol
Ephedraceae	Eph	Rosaceae subf. Spiraeoideae	Spi
Ericaceae	Eri	Staphyleaceae	Sta
Euphorbiaceae	Euph	Styracaceae	Sty
Fagaceae	Fag	Tamaricaceae	Tam
Globulariaceae	Glo	Taxaceae	Tax
Grossulariaceae	Gro	Thymelaeaceae	Thym
Guttiferae	Gutt	Tiliaceae	Til
Hippocastanaceae	Hipp	Ulmaceae	Ulm
Hydrangeaceae	Hyd	Umbelliferae	Umb
Juglandaceae	Jug	Verbenaceae	Ver
Labiatae	Lab	Violaceae	Vio
Lauraceae	Lau	Vitaceae	Vit
Leguminosae	Leg	Zygophyllaceae	Zyg

Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Abies	***alba***	MILLER	Pin	P scap semp ace
Abies	***borisii-regis***	MATTF.	Pin	P scap semp ace
Abies	***cephalonica***	LOUDON	Pin	P scap semp ace
Abies	***nebrodensis***	(LOJAC.) MATTEI	Pin	P scap semp ace
Abies	***pinsapo***	BOISS.	Pin	P scap semp ace
Abies	***sibirica***	LEDEB.	Pin	P scap semp ace
Acantholimon	***androsaceum***	(JAUB. et SPACH) BOISS.	Plu	P caesp aest
Acer	***campestre***	L.	Ace	P scap aest fron sob
Acer	***granatense***	BOISS.	Ace	P scap aest fron
Acer	***heldreichii***	ORPH.	Ace	P scap aest fron
Acer	***hyrcanum***	FISCHER et C. A. MEYER	Ace	P scap aest fron
Acer	***lobelii***	TEN.	Ace	P scap aest fron
Acer	***monspessulanum***	L.	Ace	P scap aest fron
Acer	***obtusatum***	WALDST. et KIT.	Ace	P scap aest fron
Acer	***opalus***	MILLER	Ace	P scap aest fron
Acer	***platanoides***	L.	Ace	P scap aest fron
Acer	***pseudoplatanus***	L.	Ace	P scap aest fron
Acer	***sempervirens***	L.	Ace	P scap aest fron
Acer	***stevenii***	POJARK.	Ace	P scap aest fron
Acer	***tataricum***	L.	Ace	P caesp aest
Acer	***trautvetteri***	MEDV.	Ace	P scap aest fron
Achillea	***cretica***	L.	Com	C suff caesp
Achillea	***santolinoides***	LAG.	Com	C suff caesp
Adenocarpus	***complicatus***	(L.) GAY.	Leg	P caesp aest
Adenocarpus	***decorticans***	BOISS.	Leg	P caesp aest
Adenocarpus	***hispanicus***	(LAM.) DC.	Leg	P caesp aest
Adenocarpus	***telonensis***	(LOISEL.) DC.	Leg	P caesp aest
Aesculus	***hippocastanum***	L.	Hipp	P scap aest fron
Aethionema	***cordatum***	(DESF.) BOISS.	Cru	C suff caesp
Aethionema	***iberideum***	(BOISS.) BOISS.	Cru	C suff caesp
Aethionema	***orbiculatum***	(BOISS.) HAYEK	Cru	C suff caesp
Aethionema	***polygaloides***	DC.	Cru	C suff caesp
Alhagi	***graecorum***	BOISS.	Leg	C suff caesp
Alhagi	***pseudalhagi***	(BIEB.) DESF.	Leg	C suff caesp
Alnus	***cordata***	(LOISEL.) LOISEL.	Bet	P scap aest fron
Alnus	***glutinosa***	(L.) GAERTNER	Bet	P scap aest fron
Alnus	***incana***	(L.) MOENCH	Bet	P scap aest fron
Alnus	***viridis***	(CHAIX.) DC.	Bet	P caesp aest
Amelanchier	***ovalis***	MEDICUS	Malo	P caesp aest
Anabasis	***aphylla***	L.	Chen	C suff caesp
Anabasis	***articulata***	(FORSKĹL) MOQ.	Chen	C suff caesp
Anabasis	***cretacea***	PALLAS	Chen	C suff caesp
Anabasis	***salsa***	(C. A. MEYER) PAULSEN	Chen	C suff caesp
Anagyris	***foetida***	L.	Leg	P caesp aest
Andrachne	***telephoides***	L.	Euph	C suff caesp
Andromeda	***polifolia***	L.	Eri	C frut caesp semp sob
Anthemis	***abrotanifolia***	(WILLD.) GUSS.	Com	C suff caesp
Anthemis	***aetnensis***	SCHOUW	Com	C suff caesp
Anthemis	***maritima***	L.	Com	C suff caesp
Anthemis	***panachaica***	HALÁCSY	Com	C suff caesp
Anthemis	***trotzkiana***	CLAUS	Com	C suff caesp
Anthyllis	***aegea***	TURRILL	Leg	C suff caesp
Anthyllis	***barba-jovis***	L.	Leg	C suff caesp
Anthyllis	***cytisoides***	L.	Leg	C suff caesp
Anthyllis	***henoniana***	COSSON	Leg	C suff caesp

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Anthyllis	***hermanniae***	L.	Leg	C suff caesp
Anthyllis	***terniflora***	(LAG.) PAU	Leg	C suff caesp
Antirrhinum	***charidemi***	LANGE	Scr	C frut rep aest
Antirrhinum	***grossi***	FONT QUER	Scr	C frut rep aest
Antirrhinum	***hispanicum***	CHAV.	Scr	C frut caesp aest
Antirrhinum	***microphyllum***	ROTHM.	Scr	C frut rep aest
Antirrhinum	***molle***	L.	Scr	C frut rep aest
Antirrhinum	***pertegasii***	ROTHM.	Scr	C frut caesp hib
Antirrhinum	***pulverulentum***	LÁZ.-IBIZA	Scr	C frut rep aest
Antirrhinum	***sempervirens***	LAPEYR.	Scr	C frut rep aest
Antirrhinum	***valentinum***	FONT QUER	Scr	C frut rep aest
Arbutus	***andrachne***	L.	Eri	P caesp semp cor
Arbutus	***unedo***	L.	Eri	P caesp semp cor
Arceuthobium	***oxycedri***	(DC.) BIEB.	Lor	P ep semp
Arctostaphylos	***alpinus***	(L.) SPRENGEL	Eri	C frut rep hib
Arctostaphylos	***uva-ursi***	(L.) SPRENGEL	Eri	C frut rep semp
Argyrolobium	***biebersteinii***	P. W. BALL	Leg	C suff caesp
Argyrolobium	***zanonii***	(TURRA) P. W. BALL	Leg	C suff rep aest
Aristolochia	***baetica***	L.	Ari	P scand semp
Aristolochia	***sempervirens***	L.	Ari	P scand semp
Armeria	***berlengensis***	DAVEAU	Plu	C suff caesp
Armeria	***humilis***	(LINK) SCHULTES	Plu	C suff caesp
Armeria	***juniperifolia***	(VAHL) HOFFMANS.et LINK	Plu	C suff caesp
Armeria	***leucocephala***	SALZM.	Plu	C suff caesp
Armeria	***multiceps***	WALLR.	Plu	C suff caesp
Armeria	***pseudarmeria***	(MURRAY) MANSFELD	Plu	C suff caesp
Armeria	***pubigera***	(DESF.) BOISS.	Plu	C suff caesp
Armeria	***pungens***	(LINK) HOFFMANS.	Plu	C suff caesp
Armeria	***ruscinonensis***	GIRARD	Plu	C suff caesp
Armeria	***sardoa***	SPRENGEL	Plu	C suff caesp
Armeria	***soleirolii***	(DUBY) GODRON	Plu	C suff caesp
Armeria	***splendens***	(LAG. et RODR.) WEBB	Plu	C suff caesp
Armeria	***welwitschii***	BOISS.	Plu	C suff caesp
Artemisia	***abrotanum***	L.	Com	C suff caesp
Artemisia	***gracilescens***	KRASCH. et ILJIN	Com	C suff caesp
Artemisia	***molinieri***	QUÉZ., BARB. et R. LOISEL.	Com	C suff caesp
Artemisia	***pauciflora***	WEBER	Com	C suff caesp
Artemisia	***reptans***	C. SM.	Com	C suff caesp
Artemisia	***rupestris***	L.	Com	C suff caesp
Artemisia	***salsoloides***	WILLD.	Com	C suff caesp
Artemisia	***trautvetterana***	BESSER	Com	C suff caesp
Artemisia	***tschernieviana***	BESSER	Com	C suff caesp
Arthrocnemum	***fruticosum***	MOQ.	Chen	C frut caesp aest
Arthrocnemum	***glaucum***	(DELILE) UNG.-STERNB.	Chen	C frut caesp aest
Arthrocnemum	***perenne***	(MILLER) MOSS	Chen	C frut caesp aest sob
Asperula	***rigida***	SIBTH. et SM.	Rub	C suff caesp
Asperula	***tournefortii***	SIEBER	Rub	C suff caesp
Astragalus	***angustifolius***	LAM.	Leg	C suff caesp
Astragalus	***arnacantha***	BIEB.	Leg	C suff caesp
Astragalus	***balearicus***	CHATER	Leg	C suff caesp
Astragalus	***clusii***	BOISS.	Leg	C suff caesp
Astragalus	***creticus***	LAM.	Leg	C suff caesp
Astragalus	***giennensis***	HEYWOOD	Leg	C suff caesp
Astragalus	***granatensis***	LAM.	Leg	C suff caesp
Astragalus	***massiliensis***	(MILLER) LAM.	Leg	C suff caesp

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Astragalus	***odoratus***	LAM.	Leg	C suff caesp
Astragalus	***parnassi***	BOISS.	Leg	C suff caesp
Astragalus	***sempervirens***	LAM.	Leg	C suff caesp
Astragalus	***sirinicus***	TEN.	Leg	C suff caesp
Astragalus	***thracicus***	GRISEB.	Leg	C suff caesp
Astragalus	***trojanus***	STEVEN	Leg	C suff caesp
Atraphaxis	***billardieri***	JAUB. et SPACH	Polygon	P caesp aest
Atraphaxis	***frutescens***	(L.) C. KOCH	Polygon	P caesp aest
Atraphaxis	***replicata***	LAM.	Polygon	P caesp aest
Atraphaxis	***spinosa***	L.	Polygon	P caesp aest
Atriplex	***cana***	LEDEB.	Chen	C frut caesp aest
Atriplex	***glauca***	L.	Chen	C frut caesp aest
Atriplex	***halimus***	L.	Chen	P caesp aest
Azorina	***vidalii***	(H. C. WATSON) FEER	Cam	C suff caesp
Ballota	***frutescens***	(L.) J. WOODS	Lab	C frut caesp aest
Berberis	***aetnensis***	C. PRESL	Ber	P caesp aest
Berberis	***cretica***	L.	Ber	P caesp aest sob
Berberis	***hispanica***	BOISS. et REUTER	Ber	P caesp aest
Berberis	***vulgaris***	L.	Ber	P caesp aest
Betula	***humilis***	SCHRANK	Bet	P caesp aest
Betula	***nana***	L.	Bet	P caesp aest
Betula	***pendula***	ROTH	Bet	P scap aest fron
Betula	***pubescens***	EHRH.	Bet	P scap aest fron
Boleum	***asperum***	(PERS.) DESV.	Cru	C suff caesp
Bornmuellera	***baldaccii***	(DEGEN) HEYWOOD	Cru	C suff caesp
Bornmuellera	***dieckii***	DEGEN	Cru	C suff caesp
Bornmuellera	***tymphaea***	(HAUSSKN.) HAUSSKN.	Cru	C suff caesp
Brassica	***balearica***	PERS.	Cru	C suff caesp
Brassica	***macrocarpa***	GUSS.	Cru	C suff caesp
Brassica	***rupestris***	RAFIN.	Cru	C suff caesp
Brassica	***villosa***	BIV.	Cru	C suff caesp
Bruckenthalia	***spiculifolia***	(SALISB.) REICHENB.	Eri	C frut caesp semp
Bupleurum	***acutifolium***	BOISS.	Umb	C suff caesp
Bupleurum	***barceloi***	COSSON	Umb	C suff caesp
Bupleurum	***dianthifolium***	GUSS.	Umb	C suff caesp
Bupleurum	***foliosum***	SALZM.	Umb	C suff caesp
Bupleurum	***fruticescens***	L.	Umb	C suff caesp
Bupleurum	***fruticosum***	L.	Umb	P caesp aest
Bupleurum	***gibraltarium***	LAM.	Umb	P caesp aest
Bupleurum	***spinosum***	GOUAN.	Umb	C suff caesp
Buxus	***balearica***	LAM.	Bux	P caesp semp cor
Buxus	***sempervirens***	L.	Bux	P caesp semp cor
Calicotome	***spinosa***	(L.) LINK	Leg	P caesp aest
Calicotome	***villosa***	(POIRET) LINK	Leg	P caesp aest
Calligonum	***aphyllum***	(PALLAS) GÜRKE	Polygon	P caesp aest
Calluna	***vulgaris***	(L.) HULL.	Eri	C frut caesp semp
Calophaca	***wolgarica***	(L. f.) FISCHER	Leg	C frut caesp aest
Camphorosma	***lessingii***	LITV.	Chen	C suff caesp
Camphorosma	***monspeliaca***	L.	Chen	C suff caesp
Camphorosma	***nestensis***	TURRILL	Chen	C suff caesp
Capparis	***ovata***	DESF.	Capp	P caesp aest
Capparis	***spinosa***	L.	Capp	P caesp aest
Caragana	***frutex***	(L.) C. KOCH	Leg	P caesp aest
Caragana	***grandiflora***	(BIEB.) DC.	Leg	C frut caesp aest
Carpinus	***betulus***	L.	Cory	P scap aest fron

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Carpinus	***orientalis***	MILLER	Cory	P scap aest fron
Carthamus	***arborescens***	L.	Com	C suff caesp
Cassiope	***hypnoides***	(L.) D. DON	Eri	C frut rep semp
Cassiope	***tetragona***	(L.) D. DON	Eri	C frut caesp semp
Castanea	***sativa***	MILLER	Fag	P scap aest fron
Celtis	***australis***	L.	Ulm	P scap aest fron
Celtis	***caucasica***	WILLD.	Ulm	P scap aest fron
Celtis	***glabrata***	STEVEN	Ulm	P scap aest fron
Celtis	***tournefortii***	LAM.	Ulm	P scap aest fron
Centaurea	***balearica***	RODR.	Com	C suff caesp
Centaurea	***spinosa***	L.	Com	C suff caesp
Cephalaria	***squamiflora***	(SIEBER) W. GREUTER	Dip	C frut caesp hib
Ceratonia	***siliqua***	L.	Caes	P scap semp cor
Cercis	***siliquastrum***	L.	Caes	P scap aest fron
Chamaecytisus	***albus***	(HACQ.) ROTHM.	Leg	C suff caesp
Chamaecytisus	***austriacus***	(L.) LINK	Leg	C suff caesp
Chamaecytisus	***banaticus***	ROTHM.	Leg	C suff caesp
Chamaecytisus	***blockianus***	(PAWL) A. KLÁSKOVÁ	Leg	C suff caesp
Chamaecytisus	***borysthenicus***	(GRUNER) A. KLÁSKOVÁ	Leg	C suff caesp
Chamaecytisus	***ciliatus***	(WAHLENB.) ROTHM.	Leg	C suff caesp
Chamaecytisus	***creticus***	BOISS. et HELDR.) ROTHM.	Leg	C suff caesp
Chamaecytisus	***danubialis***	(VELEN.) ROTHM.	Leg	C suff caesp
Chamaecytisus	***dorycnioides***	FRODIN et HEYWOOD	Leg	C suff caesp
Chamaecytisus	***eriocarpus***	(BOISS.) ROTHM.	Leg	C suff caesp
Chamaecytisus	***glaber***	(L. f.) ROTHM.	Leg	C suff caesp
Chamaecytisus	***graniticus***	(REHMANN) ROTHM.	Leg	C suff caesp
Chamaecytisus	***heuffelii***	(WIERZB.) ROTHM.	Leg	C suff caesp
Chamaecytisus	***hirsutus***	(L.) LINK	Leg	C suff caesp
Chamaecytisus	***jankae***	(VELEN.) ROTHM.	Leg	C suff rep aest
Chamaecytisus	***kovacevii***	(VELEN.) ROTHM.	Leg	C suff caesp
Chamaecytisus	***leiocarpus***	(A. KERNER) ROTHM.	Leg	C suff rep aest
Chamaecytisus	***lindemannii***	(V. KRECZ) A. KLÁSKOVÁ	Leg	C suff caesp
Chamaecytisus	***litwinowii***	(V. KRECZ) A. KLĹSKOVÁ	Leg	C suff caesp
Chamaecytisus	***nejceffii***	(URUM.) ROTHM.	Leg	C suff caesp
Chamaecytisus	***paczoskii***	(V. KRECZ) A. KLÁSKOVÁ	Leg	C suff caesp
Chamaecytisus	***podolicus***	(BLOCKI) A. KLÁSKOVÁ	Leg	C suff caesp
Chamaecytisus	***polytrichus***	(BIEB.) ROTHM.	Leg	C suff rep aest
Chamaecytisus	***purpureus***	(SCOP.) LINK	Leg	C suff caesp
Chamaecytisus	***pygmaeus***	(WILLD.) ROTHM.	Leg	C suff rep aest
Chamaecytisus	***ratisbonensis***	(SCHAEFFER) ROTHM.	Leg	C suff rep aest
Chamaecytisus	***rochelii***	(WIERZ.) ROTHM.	Leg	C suff caesp
Chamaecytisus	***ruthenicus***	(FISCHER) A. KLÁSKOVÁ	Leg	C suff caesp
Chamaecytisus	***skrobiszewskii***	(PACZ.) A. KLÁSKOVÁ	Leg	C suff caesp
Chamaecytisus	***spinescens***	(C. PRESL) ROTHM.	Leg	C suff caesp
Chamaecytisus	***subidaeus***	(GAND.) ROTHM.	Leg	C suff caesp
Chamaecytisus	***supinus***	(L.) LINK	Leg	C suff caesp
Chamaecytisus	***tommasinii***	(VIS.) ROTHM.	Leg	C suff caesp
Chamaecytisus	***wulfii***	(V. KRECZ) A. KLÁSKOVÁ	Leg	C suff caesp
Chamaecytisus	***zingeri***	(NENUKOW) A. KLÁSKOVÁ	Leg	C suff caesp
Chamaedaphne	***calyculata***	(L.) MOENCH	Eri	C frut caesp semp
Chamaerops	***humilis***	L.	Pal	Palmentyp
Chamaespartium	***sagittale***	(L.) P. GIBBS.	Leg	C suff rep aest
Chamaespartium	***tridentatum***	(L.) P. GIBBS.	Leg	C suff caesp
Chimaphila	***umbellata***	(L.) W. BARTON	Pyr	C frut caesp semp sob
Chronanthus	***biflorus***	FRODIN et HEYWOOD	Leg	C suff caesp

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Cistus	***albanicus***	E. F. WARBURG	Cis	C frut caesp aest
Cistus	***albidus***	L.	Cis	P caesp aest
Cistus	***clusii***	DUNAL	Cis	P caesp aest
Cistus	***crispus***	L.	Cis	P caesp aest
Cistus	***heterophyllus***	DESF.	Cis	P caesp aest
Cistus	***incanus***	L.	Cis	P caesp aest
Cistus	***ladanifer***	L.	Cis	P caesp aest
Cistus	***laurifolius***	L.	Cis	P caesp aest
Cistus	***libanotis***	L.	Cis	P caesp aest
Cistus	***monspeliensis***	L.	Cis	P caesp aest
Cistus	***palhinhae***	INGRAM	Cis	P caesp aest
Cistus	***parviflorus***	LAM.	Cis	P caesp aest
Cistus	***populifolius***	L.	Cis	P caesp aest
Cistus	***psilosepalus***	SWEET	Cis	P caesp aest
Cistus	***salvifolius***	L.	Cis	P caesp aest
Cistus	***varius***	POURRET	Cis	P caesp aest
Clematis	***alpina***	(L.) MILLER	Ran	P scand aest vol
Clematis	***campaniflora***	BROT.	Ran	P scand aest vol
Clematis	***cirrhosa***	L.	Ran	P scand semp
Clematis	***flammula***	L.	Ran	P scand aest vol
Clematis	***orientalis***	L.	Ran	P scand aest vol
Clematis	***vitalba***	L.	Ran	P scand aest vol
Clematis	***viticella***	L.	Ran	P scand aest vol
Cneorum	***tricoccon***	L.	Cne	P caesp semp cor
Colutea	***arborescens***	L.	Leg	P caesp aest
Colutea	***atlantica***	BROWICZ	Leg	P caesp aest
Colutea	***cilicica***	BOISS. et BALANSA	Leg	P caesp aest
Commicarpus	***plumbagineus***	(CAV.) STANDLEY	Nyc	C frut caesp aest
Convolvulus	***boissieri***	STEUDEL	Con	C suff caesp
Convolvulus	***cneorum***	L.	Con	C suff caesp
Convolvulus	***dorycnium***	L.	Con	C suff caesp
Convolvulus	***libanoticus***	BOISS.	Con	C suff caesp
Convolvulus	***oleifolius***	DESR.	Con	C suff caesp
Corema	***album***	(L.) DON	Emp	C frut caesp semp
Coriaria	***myrtifolia***	L.	Cori	P caesp aest
Cornus	***alba***	L.	Corn	P caesp aest
Cornus	***mas***	L.	Corn	P caesp aest
Cornus	***sanguinea***	L.	Corn	P caesp aest sob
Coronilla	***emerus***	L.	Leg	P caesp aest
Coronilla	***juncea***	L.	Leg	P caesp aest
Coronilla	***minima***	L.	Leg	C suff caesp
Coronilla	***vaginalis***	LAM.	Leg	C suff caesp
Coronilla	***valentina***	L.	Leg	P caesp aest
Corylus	***avellana***	L.	Cory	P caesp aest
Corylus	***colurna***	L.	Cory	P scap aest fron
Corylus	***maxima***	MILLER	Cory	P caesp aest
Cotinus	***coggygria***	SCOP.	Ana	P caesp aest sob
Cotoneaster	***cinnabarinus***	JUZ.	Malo	P caesp aest
Cotoneaster	***granatensis***	BOISS.	Malo	P caesp aest
Cotoneaster	***integerrimus***	MEDICIUS	Malo	P caesp aest
Cotoneaster	***nebrodensis***	(GUSS) C. KOCH	Malo	P caesp aest
Cotoneaster	***niger***	(THUNB.) FRIES	Malo	P caesp aest
Cotoneaster	***nummularia***	FISCHER et C. A. MEYER	Malo	P caesp aest
Cotoneaster	***tauricus***	POJARK.	Malo	P caesp aest
Crataegus	***altaica***	(LOUDON) LANGE	Malo	P scap aest fron

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Crataegus	***ambigua***	C.A. MEYER	Malo	P caesp aest
Crataegus	***azarolus***	L.	Malo	P caesp hib
Crataegus	***calycina***	PETERM.	Malo	P caesp aest
Crataegus	***heldreichii***	BOISS.	Malo	P caesp hib
Crataegus	***karadaghensis***	POJARK.	Malo	P caesp aest
Crataegus	***laciniata***	UCRIA.	Malo	P caesp hib
Crataegus	***laevigata***	(POIRET) DC.	Malo	P caesp aest
Crataegus	***macrocarpa***	HEGETSCHW.	Malo	P caesp aest
Crataegus	***microphylla***	C. KOCH	Malo	P caesp aest
Crataegus	***monogyna***	JACQ.	Malo	P caesp aest
Crataegus	***nigra***	WALDST. et KIT.	Malo	P caesp aest
Crataegus	***pallasii***	GRISEB.	Malo	P caesp aest
Crataegus	***pentagyna***	WALDST. et KIT.	Malo	P caesp aest
Crataegus	***pycnoloba***	BOISS. et HELDR.	Malo	P caesp aest
Crataegus	***sanguinea***	PALLAS	Malo	P caesp aest
Crataegus	***schraderana***	LEDEB.	Malo	P caesp hib
Crataegus	***sphaenophylla***	POJARK.	Malo	P caesp hib
Crataegus	***taurica***	POJARK.	Malo	P caesp aest
Crataegus	***ucrainica***	POJARK.	Malo	P caesp aest
Cupressus	***sempervirens***	L.	Cup	P scap semp ace
Cynanchum	***acutum***	L.	Asc	P scand aest plec
Cytisus	***aeolicus***	GUSS.	Leg	P caesp aest
Cytisus	***agnipilus***	VELEN.	Leg	C suff caesp
Cytisus	***ardoini***	E. FOURN.	Leg	C suff caesp
Cytisus	***baeticus***	(WEBB) STEUDEL	Leg	P caesp aest
Cytisus	***cantabricus***	(WILLK.) REICHENB. f.	Leg	P caesp aest
Cytisus	***commutatus***	(WILLK.) BRIQ.	Leg	P caesp aest
Cytisus	***decumbens***	(DURANDE) SPACH	Leg	C suff caesp
Cytisus	***emeriflorus***	REICHENB.	Leg	C suff caesp
Cytisus	***grandiflorus***	DC.	Leg	P caesp aest
Cytisus	***ingramii***	BLAKELOCK	Leg	P caesp aest
Cytisus	***malacitanus***	BOISS.	Leg	P caesp aest
Cytisus	***multiflorus***	(L'HÉR) SWEET	Leg	P caesp aest
Cytisus	***patens***	L.	Leg	P caesp aest
Cytisus	***procumbens***	(W. et K.) SPRENGEL	Leg	C suff caesp
Cytisus	***pseudoprocumbens***	MARKGRAF	Leg	C suff caesp
Cytisus	***purgans***	(L.) BOISS.	Leg	P caesp aest
Cytisus	***reverchonii***	(DEGEN et HERVIER) BEAN	Leg	P caesp aest
Cytisus	***sauzeanus***	BURNATet BRIQ.	Leg	C suff caesp
Cytisus	***scoparius***	(L.) LINK	Leg	P caesp aest
Cytisus	***sessilifolius***	L.	Leg	P caesp aest
Cytisus	***striatus***	(HILL) ROTHM.	Leg	P caesp aest
Cytisus	***tribracteolatus***	WEBB	Leg	P caesp aest
Cytisus	***villosus***	POURRET	Leg	P caesp aest
Daboecia	***azorica***	TUTIN et F. E. WARBURG	Eri	C frut rep semp
Daboecia	***cantabrica***	(HUDSON) C. KOCH	Eri	C frut caesp semp
Daphne	***alpina***	L.	Thym	C frut rep aest
Daphne	***arbuscula***	CELAK.	Thym	C frut rep semp
Daphne	***blagayana***	FREYER	Thym	C frut rep semp
Daphne	***cneorum***	L.	Thym	C frut rep semp
Daphne	***gnidioides***	JAUB. et SPACH	Thym	C frut caesp semp
Daphne	***gnidium***	L.	Thym	P caesp semp cor
Daphne	***jasminea***	SIBTH. et SM.	Thym	C frut rep semp
Daphne	***malyana***	BLECIC	Thym	C frut rep semp
Daphne	***mezereum***	L.	Thym	P caesp aest

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Daphne	***laureola***	L.	Thym	P caesp semp cor
Daphne	***oleoides***	SCHREBER	Thym	C frut caesp semp
Daphne	***petraea***	LEYBOLD	Thym	C frut rep semp
Daphne	***pontica***	L.	Thym	P caesp semp cor
Daphne	***rodriguezii***	TEXIDOR	Thym	C frut caesp semp
Daphne	***sericea***	VAHL	Thym	C frut caesp semp
Daphne	***sophia***	KALENICZ	Thym	P caesp aest
Daphne	***striata***	TRATT.	Thym	C frut rep semp
Dianthus	***arboreus***	L.	Car	C suff caesp
Dianthus	***fruticosus***	L.	Car	C suff caesp
Dianthus	***juniperinus***	SM.	Car	C suff caesp
Dianthus	***rupicola***	BIV.	Car	C suff caesp
Digitalis	***obscura***	L.	Scr	C suff caesp
Dorycnium	***graecum***	(L.) SER.	Leg	C suff caesp
Dorycnium	***hirsutum***	(L.) SER	Leg	C suff caesp
Dorycnium	***pentaphyllum***	SCOP.	Leg	C suff caesp
Dorycnium	***rectum***	(L.) SER.	Leg	C suff caesp
Dryas	***octopetala***	L.	Ros	C frut rep semp
Ebenus	***cretica***	L.	Leg	C suff caesp
Ebenus	***sibthorpii***	DC.	Leg	C suff caesp
Echinospartum	***boissieri***	(SPACH) ROTHM.	Leg	C suff caesp
Echinospartum	***horridum***	(VAHL) ROTHM.	Leg	C suff caesp
Echinospartum	***lusitanicum***	(L.) ROTHM.	Leg	C suff caesp
Empetrum	***nigrum***	L.	Emp	C frut rep semp
Ephedra	***distachia***	L.	Eph	C frut caesp semp sob
Ephedra	***fragilis***	DESF.	Eph	P scand aest plec
Ephedra	***major***	HOST	Eph	P caesp semp cor
Eremosparton	***aphyllum***	FISCHER et C. A. MEYER	Leg	C suff caesp
Erica	***arborea***	L.	Eri	P caesp semp ace
Erica	***australis***	L.	Eri	P caesp semp ace
Erica	***ciliaris***	L.	Eri	C frut caesp semp
Erica	***cinerea***	L.	Eri	C frut caesp semp
Erica	***erigena***	R. ROSS	Eri	P caesp semp ace
Erica	***herbacea***	L.	Eri	C frut caesp semp
Erica	***lusitanica***	RUDOLPHI	Eri	P caesp semp ace
Erica	***mackaiana***	BAB.	Eri	C frut caesp semp
Erica	***manipuliflora***	L.	Eri	C frut caesp semp
Erica	***multiflora***	L.	Eri	P caesp semp ace
Erica	***scoparia***	L.	Eri	P caesp semp ace
Erica	***sicula***	GUSS.	Eri	C frut caesp semp
Erica	***terminalis***	SALISB.	Eri	P caesp semp ace
Erica	***tetralix***	L.	Eri	C frut caesp semp
Erica	***umbellata***	L.	Eri	C frut caesp semp
Erica	***vagans***	L.	Eri	C frut caesp semp
Erinacea	***anthyllis***	LINK	Leg	C suff caesp
Euonymus	***europaeus***	L.	Cel	P caesp aest
Euonymus	***latifolius***	(L.) MILLER	Cel	P caesp aest
Euonymus	***nanus***	BIEB.	Cel	P caesp hib
Euonymus	***verrucosus***	SCOP.	Cel	P caesp aest
Euphorbia	***acanthothamnos***	HELDR.et SART.	Euph	C suff caesp
Euphorbia	***bivonae***	STEUDEL	Euph	P caesp aest
Euphorbia	***dendroides***	L.	Euph	P caesp aest
Euphorbia	***glabriflora***	VIS.	Euph	C suff caesp
Euphorbia	***spinosa***	L.	Euph	C suff caesp
Euphorbia	***squamigera***	LOISEL.	Euph	P caesp aest

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Euphorbia	***stygana***	H. C. WATSON	Euph	P caesp aest
Euzomodendron	***bourgeanum***	COSSON	Cru	C suff caesp
Eversmannia	***subspinosa***	(FISCHER) B. FEDTSCH.	Leg	C suff caesp
Fagus	***orientalis***	LIPSKY	Fag	P scap aest fron
Fagus	***sylvatica***	L.	Fag	P scap aest fron
Ficus	***carica***	L.	Mor	P caesp aest
Fontanesia	***phillyraeoides***	LABILL.	Ole	P caesp aest
Forsythia	***europaea***	DEGEN et BALD.	Ole	P caesp aest
Frangula	***alnus***	MILLER	Rham	P caesp aest
Frangula	***azorica***	TUTIN	Rham	P caesp aest
Frangula	***rupestris***	(SCOP) SCHUR	Rham	P caesp aest
Fraxinus	***angustifolia***	VAHL	Ole	P scap aest fron
Fraxinus	***excelsior***	L.	Ole	P scap aest fron
Fraxinus	***ornus***	L.	Ole	P scap aest fron
Fraxinus	***pallisiae***	WILLMOTT	Ole	P scap aest fron
Fumana	***aciphylla***	BOISS.	Cis	C suff caesp
Fumana	***arabica***	(L.) SPACH	Cis	C suff rep aest
Fumana	***bonapartei***	MARIEet PETIT- MENGIN	Cis	C suff rep aest
Fumana	***ericoides***	(CAV.) GAND.	Cis	C suff rep aest
Fumana	***laevipes***	(L.) SPACH	Cis	C suff caesp
Fumana	***paradoxa***	HEYWOOD	Cis	C suff caesp
Fumana	***procumbens***	(DUNAL) GREN. et GODRON	Cis	C suff rep aest
Fumana	***scoparia***	POMEL	Cis	C suff caesp
Fumana	***thymifolia***	(L.) SPACH	Cis	C suff caesp
Galium	***ephedroides***	WILLK.	Rub	C suff caesp
Galium	***fruticosum***	WILLD.	Rub	C suff caesp
Genista	***acanthoclada***	DC.	Leg	C suff caesp
Genista	***aetnensis***	(BIV.) DC.	Leg	P caesp aest
Genista	***albida***	WILLD.	Leg	C suff rep aest
Genista	***anatolica***	BOISS.	Leg	C suff caesp
Genista	***anglica***	L.	Leg	C suff caesp
Genista	***aristata***	C. PRESL	Leg	C suff caesp
Genista	***asplathoides***	LAM.	Leg	C suff caesp
Genista	***baetica***	SPACH	Leg	C suff caesp
Genista	***berberida***	LANGE	Leg	C suff caesp
Genista	***carinalis***	GRISEB.	Leg	C suff caesp
Genista	***carpetana***	LERESCHE	Leg	C suff caesp
Genista	***cinerea***	(VILL.) DC.	Leg	C suff caesp
Genista	***corsica***	(LOISEL.) DC.	Leg	C suff caesp
Genista	***cupanii***	BOISS.	Leg	C suff caesp
Genista	***doricnyfolia***	FONT QUER	Leg	C suff caesp
Genista	***ephedroides***	DC.	Leg	C suff caesp
Genista	***falcata***	BROT.	Leg	C suff caesp
Genista	***fasselata***	DECNE.	Leg	C suff caesp
Genista	***florida***	L.	Leg	C suff caesp
Genista	***germanica***	L.	Leg	C suff caesp
Genista	***haenseleri***	BOISS.	Leg	P caesp aest
Genista	***hassertiana***	(BALD.) BALD.	Leg	C suff caesp
Genista	***hirsuta***	VAHL	Leg	C suff caesp
Genista	***hispanica***	L.	Leg	C suff caesp
Genista	***holopetala***	(FLEISCHM.) BALD.	Leg	C suff caesp
Genista	***hystrix***	LANGE	Leg	C suff caesp
Genista	***januensis***	VIV.	Leg	C suff caesp
Genista	***lobelii***	DC.	Leg	C suff caesp
Genista	***lucida***	CAMB.	Leg	C suff caesp

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Genista	***lydia***	BOISS.	Leg	C suff caesp
Genista	***micrantha***	ORTEGA	Leg	C suff caesp
Genista	***morisii***	COLLA	Leg	C suff caesp
Genista	***nissana***	PETROVIC	Leg	C suff caesp
Genista	***optusiramea***	GAY	Leg	C suff caesp
Genista	***pilosa***	L.	Leg	C suff rep aest
Genista	***polyanthos***	R. DE ROEMER	Leg	C suff caesp
Genista	***pseudopilosa***	COSSON	Leg	C suff rep aest
Genista	***pulchella***	VIS.	Leg	C suff rep aest
Genista	***pumila***	(DEB. et REV.) VIERH.	Leg	C suff caesp
Genista	***radiata***	(L.) SCOP.	Leg	C suff caesp
Genista	***ramosissima***	(DESF.) POIRET	Leg	C suff caesp
Genista	***sakellariadis***	BOISS. et ORPH.	Leg	C suff rep aest
Genista	***salzmannii***	DC.	Leg	C suff caesp
Genista	***scorpius***	(L.) DC.	Leg	C suff caesp
Genista	***sericea***	WULFEN	Leg	C suff caesp
Genista	***sessilifolia***	DC.	Leg	C suff caesp
Genista	***spartoides***	SPACH	Leg	C suff caesp
Genista	***subcapitata***	PANCIC	Leg	C suff caesp
Genista	***sylvestris***	SCOP.	Leg	C suff rep aest
Genista	***teretifolia***	WILLK.	Leg	C suff rep aest
Genista	***tinctoria***	L.	Leg	C suff caesp
Genista	***tournefortii***	SPACH	Leg	C suff caesp
Genista	***triacanthos***	BROT.	Leg	C suff caesp
Genista	***tridens***	(CAV.) DC.	Leg	C suff caesp
Genista	***umbellata***	(L'HÉR) POIRET	Leg	C suff caesp
Genista	***valentina***	(WILLD.) STEUDEL	Leg	C suff caesp
Globularia	***alypum***	L.	Glo	C frut caesp semp
Globularia	***cordifolia***	L.	Glo	C frut rep semp
Globularia	***meridionalis***	(PODP.) O. SCHWARZ	Glo	C frut rep semp
Globularia	***neapolitana***	O. SCHWARZ	Glo	C frut rep semp
Globularia	***repens***	LAM.	Glo	C frut rep semp
Globularia	***stygia***	ORPH.	Glo	C frut rep semp
Gonocytisus	***angulatus***	(L.) SPACH	Leg	P caesp aest
Halimione	***portulacoides***	(L.) AELLEN	Chen	C suff rep aest
Halimione	***verrucifera***	(BIEB.) AELLEN	Chen	C suff rep aest
Halimium	***alyssoides***	(LAM.) C. KOCH	Cis	P caesp aest
Halimium	***atriplicifolium***	(LAM.) SPACH	Cis	P caesp aest
Halimium	***commutatum***	PAU	Cis	C frut caesp aest
Halimium	***halimifolium***	(L.) WILLK.	Cis	P caesp aest
Halimium	***lasianthum***	(LAM.) SPACH	Cis	P caesp aest
Halimium	***ocymoides***	(LAM.) WILLK.	Cis	P caesp aest
Halimium	***umbellatum***	(L.) SPACH	Cis	C frut caesp aest
Halimium	***verticillatum***	(BROT.) SENNEN	Cis	C frut caesp aest
Halimium	***viscosum***	(WILLK.) P. SILVA	Cis	C frut caesp aest
Halimodendron	***halodendron***	(PALLAS) VOSS	Leg	P caesp aest
Halocnemum	***strobilaceum***	(PALLAS) BIEB.	Chen	C suff caesp
Halostachys	***belangerana***	(MOQ.) BOTSCH.	Chen	P caesp aest
Haloxylon	***articulatum***	(MOQ.) BUNGE	Chen	C suff caesp
Hedera	***helix***	L.	Ara	P scand semp
Helianthemum	***appeninum***	(L.) MILLER	Cis	C frut caesp aest
Helianthemum	***asperum***	LAG.	Cis	C frut caesp aest
Helianthemum	***canum***	(L.) BAUMG.	Cis	C frut rep aest
Helianthemum	***caput-felis***	BOISS.	Cis	C frut caesp aest
Helianthemum	***cinereum***	(CAV.) PERS.	Cis	C frut caesp aest

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Helianthemum	***croceum***	(DESF.) PERS.	Cis	C frut caesp aest
Helianthemum	***hirtum***	(L.) MILLER	Cis	C frut caesp aest
Helianthemum	***hymettium***	BOISS. et HELDR.	Cis	C frut rep aest
Helianthemum	***lavandulifolium***	MILLER	Cis	C frut caesp aest
Helianthemum	***leptophyllum***	DUNAL	Cis	C frut caesp aest
Helianthemum	***lunulatum***	(ALL.) DC.	Cis	C frut caesp aest
Helianthemum	***marifolium***	(L.) MILLER	Cis	C frut rep aest
Helianthemum	***nummularium***	(L.) MILLER	Cis	C frut caesp aest
Helianthemum	***oelandicum***	(L.) DC.	Cis	C frut caesp aest
Helianthemum	***origanifolium***	(LAM.) PERS.	Cis	C frut rep aest
Helianthemum	***pannosum***	BOISS.	Cis	C frut caesp aest
Helianthemum	***piliferum***	BOISS.	Cis	C frut caesp aest
Helianthemum	***pilosum***	(L.) PERS.	Cis	C frut caesp aest
Helianthemum	***rossmaessleri***	WILLK.	Cis	C frut caesp aest
Helianthemum	***sessiliflorum***	(DESF.) PERS.	Cis	C frut caesp aest
Helianthemum	***squamatum***	(L.) PERS.	Cis	C frut caesp aest
Helianthemum	***stipulatum***	(FORSKÅL) C. CHR.	Cis	C frut caesp aest
Helianthemum	***virgatum***	(DESF.) PERS.	Cis	C frut caesp aest
Helianthemum	***viscarium***	BOISS.et REUTER	Cis	C frut caesp aest
Helianthemum	***viscidulum***	BOISS.	Cis	C frut caesp aest
Hippophaë	***rhamnoides***	L.	Elae	P caesp aest sob
Hypericum	***aciferum***	N. K. B. ROBSON	Gutt	C frut rep aest
Hypericum	***aegypticum***	L.	Gutt	C frut rep aest
Hypericum	***amblycalyx***	COUSTet GAND.	Gutt	C frut rep aest
Hypericum	***androsaemum***	L.	Gutt	C frut caesp aest
Hypericum	***balearicum***	L.	Gutt	P caesp aest
Hypericum	***calycinum***	L.	Gutt	C frut rep aest
Hypericum	***coris***	L.	Gutt	C suff rep aest
Hypericum	***empetrifolium***	WILLD.	Gutt	C frut rep aest
Hypericum	***ericoides***	L.	Gutt	C frut caesp aest
Hypericum	***foliosum***	AITON	Gutt	P caesp aest
Hypericum	***haplophylloides***	HALÁCSY et BALD.	Gutt	C frut caesp aest
Hypericum	***hircinum***	L.	Gutt	P caesp aest
Hyssopus	***officinalis***	L.	Lab	C suff caesp
Iberis	***saxatilis***	L.	Cru	C suff rep semp
Iberis	***semperflorens***	L.	Cru	C suff rep semp
Iberis	***sempervirens***	L.	Cru	C suff rep semp
Ilex	***aquifolium***	l.	Aqu	P scap semp cor
Ilex	***colchica***	POJARK.	Aqu	P caesp semp cor
Ilex	***perado***	AITON	Aqu	P scap semp cor
Inula	***crithmoides***	L.	Com	C suff caesp
Jasminum	***fruticans***	L.	Ole	P caesp hib
Juglans	***regia***	L.	Jug	P scap aest fron
Juniperus	***brevifolia***	(SEUB.) ANTOINE	Cup	P caesp semp ace
Juniperus	***communis***	L.	Cup	P caesp semp ace
Juniperus	***drupacea***	LABILL.	Cup	P scap semp ace
Juniperus	***excelsa***	BIEB.	Cup	P scap semp ace
Juniperus	***foetidissima***	WILLD.	Cup	P scap semp ace
Juniperus	***oxycedrus***	L.	Cup	P scap semp ace
Juniperus	***phoenica***	L.	Cup	P caesp semp ace
Juniperus	***sabina***	L.	Cup	P caesp semp ace
Juniperus	***thurifera***	L.	Cup	P scap semp ace
Kalidium	***caspium***	(L.) UNG. – STERNB.	Chen	C suff caesp
Kalidium	***foliatum***	(PALLAS) MOQ	Chen	C suff caesp
Kochia	***prostrata***	(L.) SCHRADER	Chen	C suff rep aest

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Kochia	***saxicola***	GUSS.	Chen	C suff caesp
Krascheninnikovia	***ceratoides***	(L.) GUELDENST.	Chen	C suff caesp
Laburnum	***alpinum***	(MILLER) BERCHTOLD	Leg	P caesp aest
Laburnum	***anagyroides***	MEDICUS	Leg	P caesp aest
Larix	***decidua***	MILLER	Pin	P scap aest ace
Larix	***russica***	(ENDL.) SABINE	Pin	P scap aest ace
Launaea	***arborescens***	(BATT.) MURB.	Cich	C suff caesp
Launaea	***cervicornis***	FONT QUER et ROTHM.	Cich	C suff caesp
Launaea	***lanifera***	PAU	Cich	C suff caesp
Laurus	***azorica***	J.FRANCO	Lau	P scap semp cor
Laurus	***nobilis***	L.	Lau	P scap semp cor
Lavandula	***angustifolia***	MILLER	Lab	C suff caesp
Lavandula	***dentata***	L.	Lab	C suff caesp
Lavandula	***lanata***	BOISS.	Lab	C suff caesp
Lavandula	***latifolia***	MEDICUS	Lab	C suff caesp
Lavandula	***multifida***	L.	Lab	C suff caesp
Lavandula	***stoechas***	L.	Lab	C suff caesp
Lavandula	***viridis***	L'HÉR	Lab	C suff caesp
Lavatera	***bryoniifolia***	MILLER	Malv	C suff caesp
Lavatera	***maritima***	GOUAN	Malv	C suff caesp
Lavatera	***olbia***	L.	Malv	C suff caesp
Ledum	***palustre***	L.	Eri	C frut caesp semp sob
Lembotropis	***nigricans***	(L.) GRISEB.	Leg	C suff caesp
Lepidium	***subulatum***	L.	Cru	C suff caesp
Ligustrum	***vulgare***	L.	Ole	P caesp aest sob
Limoniastrum	***monopetalum***	(L.) BOISS.	Plu	C suff caesp
Limonium	***caesium***	(GIRARD) O. KUNTZE	Plu	C suff caesp
Limonium	***diffusum***	(POURRET) O. KUNTZE	Plu	C suff caesp
Limonium	***ferulaceum***	(L.) O. KUNTZE	Plu	C suff caesp
Limonium	***insigne***	(COSSON) O. KUNTZE	Plu	C suff caesp
Limonium	***suffructicosum***	(L.) O. KUNTZE	Plu	C suff caesp
Linum	***arboreum***	L.	Lin	C frut caesp aest
Linnaea	***borealis***	L.	Capr	C frut caesp semp sob
Lithodora	***diffusa***	(LAG.) I. M. JOHNSTON	Bor	C suff caesp
Lithodora	***fruticosa***	(L.) GRISEB.	Bor	C suff caesp
Lithodora	***hispidula***	(SIBTH. et SM.) GRISEB.	Bor	C suff caesp
Lithodora	***nitida***	(ERN.) R. FERNANDES	Bor	C suff caesp
Lithodora	***oleifolia***	(LAPEYR.) GRISEB.	Bor	C suff caesp
Lithodora	***rosmarinifolia***	(TEN.) I. M. JOHNSTON	Bor	C suff caesp
Lithodora	***zahnii***	(HELDR.) I. M. JOHNSTON	Bor	C suff caesp
Loiseleuria	***procumbens***	(L.) DESV.	Eri	C frut rep semp
Lonicera	***alpigena***	L.	Capr	P caesp aest
Lonicera	***arborea***	BOISS.	Capr	P caesp aest
Lonicera	***biflora***	DESF.	Capr	P scand aest vol
Lonicera	***caprifolium***	L.	Capr	P scand aest vol
Lonicera	***coerulea***	L.	Capr	P caesp aest
Lonicera	***etrusca***	G.SANTI	Capr	P scand aest vol
Lonicera	***glutinosa***	VIS.	Capr	P caesp aest
Lonicera	***hellenica***	ORPH.	Capr	P caesp aest
Lonicera	***implexa***	AITON	Capr	P scand semp
Lonicera	***nigra***	L.	Capr	P caesp aest
Lonicera	***nummulariifolia***	JAUB. et SPACH	Capr	P caesp aest
Lonicera	***periclymenum***	L.	Capr	P scand aest vol
Lonicera	***pyrenaica***	L.	Capr	P caesp aest
Lonicera	***splendida***	BOISS.	Capr	P scand semp

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Lonicera	***tatarica***	L.	Capr	P caesp aest
Lonicera	***xylosteum***	L.	Capr	P caesp aest
Loranthus	***europaeus***	JACQ.	Lor	P ep aest
Lotononis	***genistoides***	(FENZL) BENTHAM	Leg	C frut caesp aest
Lotononis	***lupinifolia***	(BOISS.) BENTHAM	Leg	C frut caesp aest
Lycium	***europaeum***	L.	Sol	P caesp aest sob
Lycium	***intricatum***	BOISS.	Sol	P caesp aest sob
Lycium	***ruthenicum***	MURRAY	Sol	P caesp aest sob
Lygos	***monosperma***	(L.) HEYWOOD	Leg	P caesp aest
Lygos	***raetam***	(FORSWKĹL) HEYWOOD	Leg	P caesp aest
Lygos	***sphaerocarpa***	(L.) HEYWOOD	Leg	P caesp aest
Lysimachia	***serpyllifolia***	SCHREBER	Pri	C suff rep semp
Malus	***dasyphylla***	BORKH.	Malo	P scap aest fron
Malus	***florentina***	(ZUCC.) C. K. SCHNEIDER	Malo	P scap aest fron
Malus	***praecox***	(PALLAS) BORKH.	Malo	P scap aest fron
Malus	***sylvestris***	MILLER	Malo	P scap aest fron
Malus	***trilobata***	(LABILL.) C. K. SCHNEIDER	Malo	P caesp aest
Maytenus	***senegalensis***	(LAM.) EXELL.	Cel	P caesp semp cor
Medicago	***arborea***	L.	Leg	P caesp aest
Mespilus	***germanica***	L.	Malo	P scap aest fron
Micromeria	***acropolitana***	HALÁCSY	Lab	C frut caesp aest
Micromeria	***croatica***	(PERS) SCHOTT	Lab	C frut caesp aest
Micromeria	***filiformis***	(AITON) BENTHAM	Lab	C frut caesp aest
Micromeria	***fruticosa***	(L.) DRUCE	Lab	C frut caesp aest
Micromeria	***graeca***	(L.) BENTHAM	Lab	C frut caesp aest
Micromeria	***hispida***	BOISS.et HELDR.	Lab	C frut caesp aest
Micromeria	***inodora***	(DESF.) BENTHAM	Lab	C frut caesp aest
Micromeria	***juliana***	(L.) BENTHAM	Lab	C frut caesp aest
Micromeria	***marginata***	(SM.) CHATER	Lab	C frut caesp aest
Micromeria	***microphylla***	(D'URV.) BENTHAM	Lab	C frut caesp aest
Micromeria	***myrtifolia***	BOISS. et HOHEN	Lab	C frut caesp aest
Micromeria	***nervosa***	(DESF.) BENTHAM	Lab	C frut caesp aest
Moltkia	***petraea***	(TRATT.) GRISEB.	Bor	C suff caesp
Moltkia	***suffruticosa***	(L.) BRAND	Bor	C suff caesp
Myrica	***faya***	AITON	Myri	P caesp semp cor
Myrica	***gale***	L.	Myri	P caesp aest
Myricaria	***germanica***	(L.) DESV.	Tam	P caesp aest
Myrsine	***africana***	L.	Myrs	P caesp semp cor
Myrtus	***communis***	L.	Myrt	P caesp semp cor
Nanophyton	***erinaceum***	(PALLAS) BUNGE	Chen	C suff rep aest
Nerium	***oleander***	L.	Apo	P caesp semp cor
Nitraria	***schoberi***	L.	Zyg	P caesp aest
Noaea	***mucronata***	ASCHERSON et SCHWEINF.	Chen	C suff caesp
Odontites	***bocconei***	(GUSS.) WALPERS	Scr	C suff caesp
Odontites	***linkii***	HELDR. et SART	Scr	C suff caesp
Olea	***europaea***	L.	Ole	P scap semp cor
Ononis	***aragonensis***	ASSO	Leg	C frut caesp aest
Ononis	***arvensis***	L.	Leg	C suff caesp
Ononis	***crispa***	L.	Leg	C frut caesp aest
Ononis	***fruticosa***	L.	Leg	C frut caesp aest
Ononis	***hispida***	DESF.	Leg	C frut caesp aest
Ononis	***leucotricha***	COSSON	Leg	C frut caesp aest
Ononis	***masquillieri***	BERTOL.	Leg	C frut caesp aest
Ononis	***minutissima***	L.	Leg	C frut rep aest
Ononis	***natrix***	L.	Leg	C frut caesp aest

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Ononis	***pinnata***	BROT.	Leg	C frut caesp aest
Ononis	***pusilla***	L.	Leg	C suff caesp
Ononis	***repens***	L.	Leg	C frut rep aest
Ononis	***reuteri***	BOISS.	Leg	C frut caesp aest
Ononis	***rotundifolia***	L.	Leg	C frut caesp aest
Ononis	***speciosa***	LAG.	Leg	C frut caesp aest
Ononis	***spinosa***	L.	Leg	C suff caesp
Ononis	***tridentata***	L.	Leg	C frut caesp aest
Origanum	***compactum***	BENTHAM	Lab	C suff caesp
Origanum	***dictamnus***	L.	Lab	C suff caesp
Origanum	***majoricum***	CAMB.	Lab	C suff caesp
Origanum	***microphyllum***	(BENTHAM) BOISS.	Lab	C suff caesp
Origanum	***onites***	L.	Lab	C suff caesp
Origanum	***tournefortii***	AITON	Lab	C suff caesp
Origanum	***vetteri***	BRIQ. et W. BARBEY	Lab	C suff caesp
Ostrya	***carpinifolia***	SCOP.	Cory	P scap aest fron
Osyris	***alba***	L.	San	P caesp semp cor
Osyris	***quadripartita***	SALZM.	San	P caesp semp cor
Paliurus	***spina-christi***	MILLER	Rham	P caesp aest
Periploca	***graeca***	L.	Asc	P scand aest vol
Periploca	***laevigata***	AITON	Asc	P scand aest vol
Petteria	***ramentacea***	(SIEBER) C. PRESL	Leg	P caesp aest
Phagnalon	***graecum***	BOISS.et HELDR.	Com	C suff caesp
Phagnalon	***metlesicsii***	PIGNATTI	Com	C suff caesp
Phagnalon	***rupestre***	(L.) DC.	Com	C suff caesp
Phagnalon	***saxatile***	(L.) CASS.	Com	C suff caesp
Phagnalon	***sordidum***	(L.) REICHENB.	Com	C suff caesp
Philadelphus	***coronarius***	L.	Hyd	P caesp aest
Phillyrea	***angustifolia***	L.	Ole	P caesp semp cor
Phillyrea	***latifolia***	L.	Ole	P caesp semp cor
Phlomis	***cretica***	C. PRESL	Lab	C frut caesp hib
Phlomis	***crinita***	CAV.	Lab	C frut caesp hib
Phlomis	***ferruginea***	TEN.	Lab	C frut caesp hib
Phlomis	***floccosa***	D. DON	Lab	C frut caesp hib
Phlomis	***fruticosa***	L.	Lab	P caesp hib
Phlomis	***italica***	L.	Lab	P caesp hib
Phlomis	***lanata***	WILLD.	Lab	C frut caesp hib
Phlomis	***lychnitis***	L.	Lab	C frut caesp hib
Phlomis	***purpurea***	L.	Lab	P caesp hib
Phoenix	***theophrasti***	W. GREUTER	Pal	Palmentyp
Phyllodoce	***caerulea***	(L.) BAB.	Eri	C frut caesp semp sob
Picconia	***azorica***	(TUTIN) KNOBL.	Ole	P caesp semp cor
Picea	***abies***	(L.) KARSTEN	Pin	P scap semp ace
Picea	***omorika***	(PANCIC) PURKYNÉ	Pin	P scap semp ace
Pinus	***brutia***	TEN.	Pin	P scap semp ace
Pinus	***cembra***	L.	Pin	P scap semp ace
Pinus	***halepensis***	MILLER	Pin	P scap semp ace
Pinus	***heldreichii***	CHRIST	Pin	P scap semp ace
Pinus	***leucodermis***	ANTOINE	Pin	P scap semp ace
Pinus	***mugo***	TURRA	Pin	P caesp semp ace
Pinus	***nigra***	ARNOLD	Pin	P scap semp ace
Pinus	***peuce***	GRISEB.	Pin	P scap semp ace
Pinus	***pinaster***	AITON	Pin	P scap semp ace
Pinus	***pinea***	L.	Pin	P scap semp ace
Pinus	***pityusa***	STEVEN	Pin	P scap semp ace

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Pinus	***sibirica***	DU TOUR	Pin	P scap semp ace
Pinus	***stankewiczii***	(SUK.) FOMIN	Pin	P scap semp ace
Pinus	***sylvestris***	L.	Pin	P scap semp ace
Pinus	***uncinata***	MILLER	Pin	P scap semp ace
Pistacia	***atlantica***	DESF.	Ana	P scap aest fron
Pistacia	***lentiscus***	L.	Ana	P scap semp cor
Pistacia	***terebinthus***	L.	Ana	P scap aest fron
Plantago	***asperrima***	(GAND.) HERVIER	Plan	C suff caesp
Plantago	***sempervirens***	CRANTZ	Plan	C suff caesp
Platanus	***hybrida***	BROT.	Plat	P scap aest fron
Platanus	***orientalis***	L.	Plat	P scap aest fron
Podocytisus	***caramanicus***	BOISS. et HELDR.	Leg	P caesp aest
Polygala	***chamaebuxus***	L.	Polygal	C frut rep hib
Polygala	***microphylla***	L.	Polygal	C frut caesp aest
Polygala	***vayredae***	COSTA	Polygal	C frut rep hib
Populus	***alba***	L.	Sal	P scap aest fron sob
Populus	***nigra***	L.	Sal	P scap aest fron
Populus	***tremula***	L.	Sal	P scap aest fron sob
Potentilla	***fruticosa***	L.	Ros	P caesp aest
Prasium	***majus***	L.	Lab	C suff caesp
Prunus	***avium***	L.	Pru	P scap aest fron sob
Prunus	***brigantina***	VILL.	Pru	P caesp aest
Prunus	***cerasifera***	EHRH.	Pru	P scap aest fron sob
Prunus	***cocomilia***	TEN.	Pru	P caesp aest
Prunus	***fruticosa***	PALLAS	Pru	P caesp aest sob
Prunus	***laurocerasus***	L.	Pru	P caesp semp cor
Prunus	***lusitanica***	L.	Pru	P caesp semp cor
Prunus	***mahaleb***	L.	Pru	P scap aest fron
Prunus	***padus***	L.	Pru	P scap aest fron
Prunus	***prostrata***	LABILL.	Pru	P caesp aest
Prunus	***rambourii***	BOISS.	Pru	P caesp aest sob
Prunus	***spinosa***	L.	Pru	P caesp aest sob
Prunus	***tenella***	BATSCH	Pru	P caesp aest sob
Prunus	***webbii***	(SPACH) VIERH.	Pru	P scap aest fron
Ptilostemon	***chamaepeuce***	(L.) LESS.	Com	C suff caesp
Ptilostemon	***gnaphaloides***	(CYR) SOJÁK	Com	C suff caesp
Ptilotrichum	***halimifolium***	BOISS.	Cru	C suff caesp
Ptilotrichum	***lapeyrousianum***	(JORDAN) JORDAN	Cru	C suff caesp
Ptilotrichum	***macrocarpum***	(DC.) BOISS.	Cru	C suff caesp
Ptilotrichum	***pyrenaicum***	(LAPEYR.) BOISS.	Cru	C suff caesp
Ptilotrichum	***reverchonii***	DEGEN et HERVIER	Cru	C suff caesp
Ptilotrichum	***spinosum***	(L.) BOISS.	Cru	C suff caesp
Putoria	***calabrica***	(L. f.) DC.	Rub	C suff caesp
Pyracantha	***coccinea***	M. J. ROEMER	Malo	P caesp semp cor
Pyrus	***austriaca***	A. KERNER	Malo	P scap aest fron
Pyrus	***amygdaliformis***	VILL.	Malo	P scap aest fron
Pyrus	***bourgeana***	DECNE.	Malo	P scap aest fron
Pyrus	***caucasica***	FEDOROV	Malo	P scap aest fron
Pyrus	***cordata***	DESV.	Malo	P scap aest fron
Pyrus	***eleagifolia***	PALLAS	Malo	P scap aest fron
Pyrus	***magyarica***	TERPÓ	Malo	P scap aest fron
Pyrus	***nivalis***	JACQ.	Malo	P scap aest fron
Pyrus	***pyraster***	BURGSD.	Malo	P scap aest fron
Pyrus	***rossica***	DANILOV	Malo	P scap aest fron
Pyrus	***salvifolia***	DC.	Malo	P scap aest fron

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Quercus	***brachyphylla***	KOTSCHY	Fag	P scap hib
Quercus	***canariensis***	WILLD.	Fag	P scap hib
Quercus	***cerris***	L.	Fag	P scap aest fron
Quercus	***coccifera***	L.	Fag	P caesp semp cor
Quercus	***congesta***	C. PRESL	Fag	P scap aest fron
Quercus	***dalechampii***	TEN.	Fag	P scap aest fron
Quercus	***faginea***	LAM.	Fag	P scap hib
Quercus	***frainetto***	TEN.	Fag	P scap aest fron
Quercus	***fruticosa***	BROT.	Fag	P caesp hib
Quercus	***hartwissiana***	STEVEN	Fag	P scap aest fron
Quercus	***ilex***	L.	Fag	P scap semp cor
Quercus	***infectoria***	OLIVIER	Fag	P caesp hib
Quercus	***macrolepis***	KOTSCHY	Fag	P scap hib
Quercus	***mas***	THORE	Fag	P scap aest fron
Quercus	***pedunculiflora***	C. KOCH	Fag	P scap aest fron
Quercus	***petraea***	(MATTUSCHKA) LIEBL.	Fag	P scap aest fron
Quercus	***polycarpa***	SCHUR	Fag	P scap aest fron
Quercus	***pubescens***	WILLD.	Fag	P scap aest fron
Quercus	***pyrenaica***	WILLD.	Fag	P scap aest fron
Quercus	***robur***	L.	Fag	P scap aest fron
Quercus	***rotundifolia***	LAM.	Fag	P scap semp cor
Quercus	***sicula***	BORZI	Fag	P scap aest fron
Quercus	***suber***	L.	Fag	P scap semp cor
Quercus	***trojana***	WEBB	Fag	P scap hib
Quercus	***virgiliana***	(TEN.) TEN.	Fag	P scap aest fron
Reaumuria	***vermiculata***	L.	Tam	C frut caesp aest
Rhamnus	***alaternus***	L.	Rham	P caesp semp cor
Rhamnus	***alpinus***	L.	Rham	P caesp aest
Rhamnus	***catharticus***	L.	Rham	P caesp aest
Rhamnus	***intermedius***	STUDEL et HOCHST.	Rham	P caesp aest
Rhamnus	***ludovici-salvatoris***	CHODAT	Rham	P caesp semp cor
Rhamnus	***lycioides***	L.	Rham	P caesp hib
Rhamnus	***orbiculatus***	BORNM.	Rham	P caesp aest
Rhamnus	***persicifolius***	MORIS	Rham	P caesp aest
Rhamnus	***prunifolius***	SIBTH. et SM.	Rham	P caesp aest
Rhamnus	***pumilus***	TURRA	Rham	C frut caesp aest
Rhamnus	***rhodopaeus***	VELEN.	Rham	P caesp aest
Rhamnus	***saxatilis***	JACQ.	Rham	P caesp aest
Rhamnus	***sibthorpianus***	ROEMER et SCHULTES	Rham	P caesp aest
Rhododendron	***ferrugineum***	L.	Eri	P caesp semp cor
Rhododendron	***hirsutum***	L.	Eri	P caesp semp cor
Rhododendron	***lapponicum***	(L.) WAHLENB.	Eri	C frut rep semp
Rhododendron	***luteum***	SWEET	Eri	P caesp aest
Rhododendron	***myrtifolium***	SCHOTT et KOTSCHY	Eri	C frut caesp semp
Rhododendron	***ponticum***	L.	Eri	P caesp semp cor
Rhodothamnus	***chamaecistus***	(L.) REICHENB.	Eri	C frut caesp semp
Rhus	***coriaria***	L.	Ana	P caesp semp cor
Rhus	***pentaphylla***	(JACQ.) DESF.	Ana	P scap aest fron
Rhus	***tripartita***	(UCRIA) GRANDE	Ana	P scap aest fron
Ribes	***alpinum***	L.	Gro	P caesp aest
Ribes	***multiflorum***	KIT.	Gro	P caesp aest
Ribes	***nigrum***	L.	Gro	P caesp aest sob
Ribes	***orientale***	DESF.	Gro	P caesp aest
Ribes	***petraeum***	WULFEN	Gro	P caesp aest
Ribes	***rubrum***	L.	Gro	P caesp aest

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Ribes	***sardoum***	U. MARTELLI	Gro	P caesp aest
Ribes	***spicatum***	ROBSON	Gro	P caesp aest
Ribes	***uva-crispa***	L.	Gro	P caesp aest
Rosa	***abietina***	GREN.	Ros	P caesp aest
Rosa	***acicularis***	LINDLEY	Ros	P caesp aest sob
Rosa	***agrestis***	SAVI	Ros	P caesp aest
Rosa	***andegavensis***	BAST.	Ros	P caesp aest
Rosa	***arvensis***	HUDSON	Ros	P scand aest plec
Rosa	***caesia***	SM.	Ros	P caesp aest sob
Rosa	***canina***	L.	Ros	P caesp aest
Rosa	***carophyllacea***	BESSER	Ros	P caesp aest
Rosa	***corymbifera***	BORKH.	Ros	P caesp aest
Rosa	***desegliesi***	BOREAU	Ros	P caesp aest
Rosa	***elliptica***	TAUSCH	Ros	P caesp aest
Rosa	***gallica***	L.	Ros	P caesp aest sob
Rosa	***glauca***	POURRET	Ros	P caesp aest sob
Rosa	***glutinosa***	SIBTH. et SM.	Ros	P caesp aest
Rosa	***heckeliana***	TRATT.	Ros	P caesp aest
Rosa	***jundzillii***	BESSER	Ros	P caesp aest
Rosa	***majalis***	J. HERRMANN	Ros	P caesp aest sob
Rosa	***micrantha***	BORRER	Ros	P caesp aest
Rosa	***mollis***	SM.	Ros	P caesp aest
Rosa	***montana***	CHAIX	Ros	P caesp aest
Rosa	***nitidula***	BESSER	Ros	P caesp aest
Rosa	***obtusifolia***	DESF.	Ros	P caesp aest
Rosa	***orientalis***	DUPONT	Ros	P caesp aest
Rosa	***pendulina***	L.	Ros	P caesp aest sob
Rosa	***phoenicia***	BOISS.	Ros	P scand aest plec
Rosa	***pimpinellifolia***	L.	Ros	P caesp aest sob
Rosa	***pouzinii***	TRATT.	Ros	P caesp aest
Rosa	***rhaetica***	GREMLI	Ros	P caesp aest
Rosa	***rubiginosa***	L.	Ros	P caesp aest sob
Rosa	***scabriuscula***	SM.	Ros	P caesp aest
Rosa	***sempervirens***	L.	Ros	P caesp semp cor
Rosa	***serafinii***	VIV.	Ros	P caesp aest
Rosa	***sherardii***	DAVIES	Ros	P caesp aest sob
Rosa	***sicula***	TRATT.	Ros	P caesp aest
Rosa	***squarrosa***	(RAU) BOREAU	Ros	P caesp aest
Rosa	***stylosa***	DESV.	Ros	P caesp aest
Rosa	***subcanina***	DALLA TORRE et SARNTH.	Ros	P caesp aest
Rosa	***subcollina***	DALLA TORRE et SARNTH.	Ros	P caesp aest
Rosa	***tomentosa***	SM.	Ros	P caesp aest
Rosa	***turcica***	ROUY	Ros	P caesp aest
Rosa	***villosa***	L.	Ros	P caesp aest
Rosa	***vosagiaca***	DESPORTES	Ros	P caesp aest
Rosmarinus	***eriocalyx***	JORDAN et FOURR.	Lab	P caesp semp cor
Rosmarinus	***officinalis***	L.	Lab	P caesp semp cor
Rubus	***caesius***	L.	Ros	C suff rep aest
Rubus	***fruticosus***	L.	Ros	C suff rep hib
Rubus	***idaeus***	L.	Ros	C suff caesp
Rubus	***sachalinensis***	LÉVEILLÉ	Ros	C suff caesp
Ruscus	***aculeatus***	L.	Lil	C frut caesp semp
Ruscus	***hypoglossum***	L.	Lil	C frut caesp semp
Ruscus	***hypophyllum***	L.	Lil	C frut caesp semp
Salix	***acutifolia***	WILLD.	Sal	P caesp aest

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Salix	***aegyptiaca***	L.	Sal	P caesp aest
Salix	***alba***	L.	Sal	P scap aest fron
Salix	***alpina***	SCOP.	Sal	C frut rep aest
Salix	***amplexicaulis***	BORY	Sal	P caesp aest
Salix	***appendiculata***	VILL.	Sal	P caesp aest
Salix	***arbuscula***	L.	Sal	P caesp aest
Salix	***arctica***	PALLAS	Sal	C frut rep aest
Salix	***arenaria***	L.	Sal	P caesp aest sob
Salix	***atrocinerea***	BROT.	Sal	P caesp aest
Salix	***aurita***	L.	Sal	P caesp aest sob
Salix	***bicolor***	WILLD.	Sal	P caesp aest
Salix	***borealis***	FRIES	Sal	P scap aest fron
Salix	***breviserrata***	B. FLOD.	Sal	C frut rep aest
Salix	***caesia***	VILL.	Sal	P caesp aest
Salix	***callicarpaea***	TRAUTV.	Sal	P caesp aest
Salix	***cantabrica***	RECH.	Sal	P caesp aest
Salix	***caprea***	L.	Sal	P caesp aest
Salix	***caspica***	PALLAS	Sal	P caesp aest
Salix	***cinerea***	L.	Sal	P caesp aest
Salix	***coaetanea***	(HARTMANN) B. FLOD.	Sal	P caesp aest
Salix	***crataegifolia***	BERTOL.	Sal	P caesp aest
Salix	***daphnoides***	VILL.	Sal	P caesp aest
Salix	***eleagnos***	SCOP.	Sal	P caesp aest
Salix	***foetida***	SCHLEICHER	Sal	P caesp aest
Salix	***fragilis***	L.	Sal	P scap aest fron
Salix	***glabra***	SCOP.	Sal	P caesp aest
Salix	***glandulifera***	B. FLOD.	Sal	P caesp aest
Salix	***glauca***	L.	Sal	P caesp aest
Salix	***glaucosericea***	B. FLOD.	Sal	P caesp aest
Salix	***hastata***	L.	Sal	P caesp aest
Salix	***hegetschweileri***	HEER	Sal	P caesp aest
Salix	***helvetica***	VILL.	Sal	P caesp aest
Salix	***herbacea***	L.	Sal	C frut rep aest
Salix	***hibernica***	RECH.	Sal	P caesp aest
Salix	***kitaibeliana***	WILLD.	Sal	C frut rep aest
Salix	***laggeri***	WIMMER	Sal	P caesp aest
Salix	***lanata***	L.	Sal	P caesp aest
Salix	***lapponum***	L.	Sal	P caesp aest
Salix	***marrubiifolia***	TAUSCH	Sal	P caesp aest
Salix	***mielichhoferi***	SAUTER	Sal	P caesp aest
Salix	***myrsinites***	L.	Sal	C frut rep aest
Salix	***myrtilloides***	L.	Sal	P caesp aest sob
Salix	***nigricans***	SM.	Sal	P caesp aest
Salix	***pedicellata***	DESF.	Sal	P scap aest fron
Salix	***pentandra***	L.	Sal	P scap aest fron
Salix	***phylicifolia***	L.	Sal	P caesp aest
Salix	***polaris***	WAHLENB.	Sal	C frut rep aest
Salix	***pulchra***	CHAM.	Sal	C frut rep aest
Salix	***purpurea***	L.	Sal	P caesp aest
Salix	***pyrenaica***	GOUAN	Sal	C frut rep aest
Salix	***pyrolifolia***	LEDEB.	Sal	P caesp aest
Salix	***repens***	L.	Sal	P caesp aest sob
Salix	***reptans***	RUPR.	Sal	C frut rep aest
Salix	***reticulata***	L.	Sal	C frut rep hib
Salix	***retusa***	L.	Sal	C frut rep hib

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Salix	***rosmarinifolia***	L.	Sal	P caesp aest sob
Salix	***rossica***	NASAROV	Sal	P caesp aest
Salix	***rotundifolia***	TRAUTW.	Sal	C frut rep aest
Salix	***salvifolia***	BROT.	Sal	P caesp aest
Salix	***serpyllifolia***	SCOP.	Sal	C frut rep aest
Salix	***silesiaca***	WILLD.	Sal	P caesp aest
Salix	***starkeana***	WILLD.	Sal	P caesp aest
Salix	***stipulifera***	B. FLOD.	Sal	P caesp aest
Salix	***tarraconensis***	PAU	Sal	P caesp aest
Salix	***triandra***	L.	Sal	P caesp aest
Salix	***viminalis***	L.	Sal	P caesp aest
Salix	***waldsteiniana***	WILLD.	Sal	P caesp aest
Salix	***wilhelmsiana***	BIEB.	Sal	P caesp aest
Salix	***xerophila***	B. FLOD.	Sal	P caesp aest
Salsola	***aegea***	RECH.	Chen	C suff caesp
Salsola	***arbuscula***	PALLAS	Chen	C suff caesp
Salsola	***carpatha***	P. H. DAVIS	Chen	C suff caesp
Salsola	***dendroides***	PALLAS	Chen	C suff caesp
Salsola	***genistoides***	JUSS.	Chen	C suff caesp
Salsola	***laricina***	PALLAS	Chen	C suff caesp
Salsola	***nodulosa***	(MOQ.) ILJIN	Chen	C suff caesp
Salsola	***papillosa***	(COSSON) WILLK.	Chen	C suff caesp
Salsola	***vermiculata***	L.	Chen	C suff caesp
Salsola	***verticillata***	SCHOUSBOE	Chen	C suff caesp
Salsola	***webbii***	MOQ.	Chen	C suff caesp
Salvia	***eichlerana***	HELDR.	Lab	C suff caesp
Salvia	***grandiflora***	ETLINGER	Lab	C suff caesp
Salvia	***lavandulifolia***	VAHL	Lab	C suff caesp
Salvia	***officinalis***	L.	Lab	C suff caesp
Salvia	***pomifera***	L.	Lab	C suff caesp
Salvia	***triloba***	L.	Lab	C suff caesp
Sambucus	***nigra***	L.	Capr	P caesp aest
Sambucus	***racemosa***	L.	Capr	P caesp aest
Santolina	***chamaecyparissus***	L.	Com	C suff caesp
Santolina	***elegans***	BOISS.	Com	C suff rep aest
Santolina	***oblongifolia***	BOISS.	Com	C suff caesp
Santolina	***rosmarinifolia***	L.	Com	C suff caesp
Santolina	***viscosa***	LAG.	Com	C suff caesp
Sarcopoterium	***spinosum***	(L.) SPACH	Ros	C frut caesp aest
Satureja	***salzmannii***	P. W. BALL	Lab	C suff caesp
Satureja	***spinosa***	L.	Lab	C suff caesp
Satureja	***thymbra***	L.	Lab	C suff caesp
Securinega	***tinctoria***	(L.) ROTHM.	Euph	P caesp aest
Senecio	***ambiguus***	(BIV.) DC.	Com	C suff caesp
Senecio	***bicolor***	(WILLD.) TOD.	Com	C suff caesp
Senecio	***gnaphalodes***	SIEBER	Com	C suff caesp
Senecio	***linifolius***	L.	Com	C suff caesp
Senecio	***nevadensis***	BOISS. et REUTER	Com	C suff caesp
Senecio	***quinqueradiatus***	BOISS.	Com	C suff caesp
Sesamoides	***canescens***	(L.) O. KUNTZE	Res	C suff caesp
Sesamoides	***pygmaea***	(SCHEELE) O.KUNTZE	Res	C suff caesp
Sibiraea	***altaiensis***	(LAXM.) C. K. SCHNEIDER	Spi	P caesp aest
Sideritis	***arborescens***	SALZM.	Lab	C suff caesp
Sideritis	***foetens***	CLEMENTE	Lab	C suff caesp
Sideritis	***grandiflora***	SALZM.	Lab	C suff caesp

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Silene	***dictaea***	RECH.	Car	C suff caesp
Silene	***fruticosa***	L.	Car	C suff caesp
Silene	***spinescens***	SIBTH. et SM.	Car	C suff caesp
Smilax	***aspera***	L.	Lil	C suff scand
Smilax	***canariensis***	WILLD.	Lil	C suff scand
Smilax	***excelsa***	L.	Lil	C suff scand
Sorbus	***aria***	(L.) CRANTZ	Malo	P scap aest fron
Sorbus	***aucuparia***	L.	Malo	P scap aest fron
Sorbus	***austriaca***	(G. BECK) HEDL.	Malo	P scap aest fron
Sorbus	***chamaemespilus***	CRANTZ	Malo	P caesp aest
Sorbus	***dacica***	BORBÍS	Malo	P scap aest fron
Sorbus	***domestica***	L.	Malo	P scap aest fron
Sorbus	***graeca***	(SPACH) KOTSCHY	Malo	P scap aest fron
Sorbus	***hybrida***	L.	Malo	P scap aest fron
Sorbus	***intermedia***	(EHRH.) PERS.	Malo	P scap aest fron
Sorbus	***latifolia***	(LAM.) PERS.	Malo	P scap aest fron
Sorbus	***margittaiana***	(JÁV) KÁRPÁTI	Malo	P caesp aest
Sorbus	***meinichii***	(LINDEB.) HEDL.	Malo	P scap aest fron
Sorbus	***minima***	(A. LEY) HEDL.	Malo	P caesp aest
Sorbus	***mougeotii***	SOYER – WILL. et GODRON	Malo	P scap aest fron
Sorbus	***rupicola***	(SYME) HEDL.	Malo	P caesp aest
Sorbus	***sudetica***	(TAUSCH) FRITSCH	Malo	P caesp aest
Sorbus	***torminalis***	(L.) CRANTZ	Malo	P scap aest fron
Sorbus	***umbellata***	(DESF.) FRITSCH	Malo	P scap aest fron
Spartium	***junceum***	L.	Leg	P caesp aest
Spiraea	***cana***	WALDST. et KIT.	Spi	P caesp aest sob
Spiraea	***chamaedryfolia***	L.	Spi	P caesp aest sob
Spiraea	***crenata***	L.	Spi	P caesp aest sob
Spiraea	***decumbens***	C. KOCH	Spi	C frut rep aest
Spiraea	***hypericifolia***	L.	Spi	P caesp aest sob
Spiraea	***media***	FR. SCHMIDT	Spi	P caesp aest sob
Spiraea	***salicifolia***	L.	Spi	P caesp aest sob
Stachys	***glutinosa***	L.	Lab	C suff caesp
Stachys	***spinosa***	L.	Lab	C suff caesp
Staehelina	***arborea***	SCHREBER	Com	C suff caesp
Staehelina	***baetica***	DC.	Com	C suff caesp
Staehelina	***dubia***	L.	Com	C suff caesp
Staehelina	***fruticosa***	(L.) L.	Com	C suff caesp
Staehelina	***uniflosculosa***	SIBTH. et SM.	Com	C suff caesp
Staphylea	***pinnata***	L.	Sta	P caesp aest
Stauracanthus	***boivinii***	(WEBB.) SAMP.	Leg	C frut caesp aest
Stauracanthus	***genistoides***	(BROT.) SAMP.	Leg	C frut caesp aest
Styrax	***officinalis***	L.	Sty	P caesp aest
Suaeda	***dendroides***	(C. A. MEYER) MOQ.	Chen	C suff caesp
Suaeda	***physospora***	PALLAS	Chen	C suff caesp
Suaeda	***pruinosa***	LANGE	Chen	C suff caesp
Suaeda	***vera***	J. F. GMELIN	Chen	C suff caesp
Syringa	***josikaea***	JACQ.	Ole	P caesp aest
Syringa	***vulgaris***	L.	Ole	P caesp aest
Tamarix	***africana***	POIRET	Tam	P scap aest fron
Tamarix	***boveana***	BUNGE	Tam	P scap aest fron
Tamarix	***canariensis***	WILLD.	Tam	P caesp aest
Tamarix	***dalmatica***	BAUM	Tam	P scap aest fron
Tamarix	***gallica***	L.	Tam	P caesp aest
Tamarix	***gracilis***	WILLD.	Tam	P scap aest fron

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Tamarix	***hampeana***	BOISS. et HELR.	Tam	P scap aest fron
Tamarix	***hispida***	WILLD.	Tam	P caesp aest
Tamarix	***laxa***	WILLD.	Tam	P caesp aest
Tamarix	***meyeri***	BOISS.	Tam	P caesp aest
Tamarix	***parviflora***	DC.	Tam	P caesp aest
Tamarix	***ramosissima***	LEDEB.	Tam	P caesp aest
Tamarix	***smyrnensis***	BUNGE	Tam	P caesp aest
Tamarix	***tetrandra***	PALLAS	Tam	P caesp aest
Taxus	***baccata***	L.	Tax	P scap semp ace
Telephium	***imperati***	L.	Car	C suff rep aest
Teline	***linifolia***	(L.) WEBB et BERTH.	Leg	P caesp aest
Teline	***monspessulana***	(L.) KOCH	Leg	P caesp aest
Tetraclinis	***articulata***	(VAHL) MASTERS	Cup	P scap semp ace
Teucrium	***alpestre***	SIBTH. et SM.	Lab	C suff caesp
Teucrium	***aragonese***	LOSCOS et PARDO	Lab	C suff caesp
Teucrium	***aranium***	ORPH.	Lab	C frut rep semp
Teucrium	***arduini***	L.	Lab	C suff caesp
Teucrium	***asiaticum***	L.	Lab	C suff caesp
Teucrium	***brevifolium***	SCHREBER	Lab	C frut caesp semp
Teucrium	***buxifolium***	SCHREBER	Lab	C suff caesp
Teucrium	***carthaginese***	LANGE	Lab	C suff caesp
Teucrium	***chamaedrys***	L.	Lab	C suff rep aest
Teucrium	***charidemi***	SANDWITH	Lab	C suff caesp
Teucrium	***compactum***	CLEMENTE	Lab	C suff rep aest
Teucrium	***cossoni***	D. WOOD	Lab	C suff caesp
Teucrium	***cuneifolium***	SIBTH. et SM.	Lab	C suff caesp
Teucrium	***divaricatum***	SIEBER	Lab	C suff caesp
Teucrium	***eriocephalum***	WILLK.	Lab	C suff caesp
Teucrium	***flavum***	L.	Lab	C suff caesp
Teucrium	***fragile***	BOISS.	Lab	C suff caesp
Teucrium	***francisci-werneri***	RECH.	Lab	C suff caesp
Teucrium	***freynii***	REVERCHON	Lab	C suff caesp
Teucrium	***fruticans***	L.	Lab	P caesp semp cor
Teucrium	***gnaphalodes***	L'HÉR.	Lab	C suff caesp
Teucrium	***haenseleri***	BOISS.	Lab	C suff caesp
Teucrium	***halacsyanum***	HELDR.	Lab	C suff caesp
Teucrium	***heliotropifolium***	W. BARBEY	Lab	C suff caesp
Teucrium	***intricatum***	LANGE	Lab	C suff caesp
Teucrium	***krymense***	JUZ.	Lab	C suff rep aest
Teucrium	***lamifolium***	D'URV.	Lab	C suff caesp
Teucrium	***libanitis***	SCHREBER	Lab	C suff caesp
Teucrium	***lucidum***	L.	Lab	C suff rep aest
Teucrium	***marum***	L.	Lab	C suff caesp
Teucrium	***massiliense***	L.	Lab	C suff caesp
Teucrium	***microphyllum***	DESF.	Lab	C suff caesp
Teucrium	***montanum***	L.	Lab	C suff rep aest
Teucrium	***polium***	L.	Lab	C suff caesp
Teucrium	***pumilum***	L.	Lab	C suff caesp
Teucrium	***salviastrum***	SCHREBER	Lab	C suff caesp
Teucrium	***scorodonia***	L.	Lab	C suff caesp
Teucrium	***subspinosum***	POURRET	Lab	C suff caesp
Teucrium	***thymifolium***	SCHREBER	Lab	C suff rep aest
Teucrium	***turredanum***	LOSA et RIVAS	Lab	C suff caesp
Teucrium	***webbianum***	BOISS.	Lab	C suff rep aest
Thymbra	***calostachya***	(RECH. f.) RECH.	Lab	C suff caesp

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Thymbra	***spicata***	L.	Lab	C suff caesp
Thymelaea	***broterana***	COUTINHO	Thym	C frut caesp semp
Thymelaea	***calycina***	(LAPEYR.) MEISSNER	Thym	C frut caesp semp
Thymelaea	***coridifolia***	(LAM.) ENDL.	Thym	C frut caesp semp
Thymelaea	***dioica***	(GOUAN) ALL.	Thym	C frut caesp semp
Thymelaea	***hirsuta***	(L.) ENDL.	Thym	C frut caesp semp
Thymelaea	***lanuguinosa***	CEBALLOS et C. VICIOSO	Thym	C frut caesp semp
Thymelaea	***myrtifolia***	(POIRET) D. A. WEBB	Thym	C frut caesp semp
Thymelaea	***nitida***	(VAHL) ENDL.	Thym	C frut caesp semp
Thymelaea	***procumbens***	A. et R. FERNANDES	Thym	C frut rep semp
Thymelaea	***ruizii***	LOSCOS	Thym	C frut caesp semp
Thymelaea	***subrepens***	LANGE	Thym	C frut rep semp
Thymelaea	***tartonraira***	(L.) ALL.	Thym	C frut caesp semp
Thymelaea	***tinctoria***	(POURRET) ENDL.	Thym	C frut caesp semp
Thymelaea	***villosa***	(L.) ENDL.	Thym	C frut caesp semp
Thymus	***antoniane***	ROUY et COINCY	Lab	C suff caesp
Thymus	***aranjuezii***	JALAS	Lab	C suff rep hib
Thymus	***atticus***	CELAK.	Lab	C suff rep hib
Thymus	***aznavourii***	VELEN.	Lab	C suff rep hib
Thymus	***baeticus***	BOISS.	Lab	C suff caesp
Thymus	***bracteatus***	LANGE	Lab	C suff rep aest
Thymus	***bracteosus***	VIS.	Lab	C suff rep aest
Thymus	***caespititus***	BROT.	Lab	C suff rep aest
Thymus	***camphoratus***	HOFFMANNS. et LINK	Lab	C suff caesp
Thymus	***capitatus***	(L.) HOFFMANNS. et LINK	Lab	C suff caesp
Thymus	***capitellatus***	HOFFMANNS. et LINK	Lab	C suff caesp
Thymus	***carnosus***	BOISS.	Lab	C suff caesp
Thymus	***cephalotos***	L.	Lab	C suff caesp
Thymus	***cherlerioides***	VIS.	Lab	C suff rep aest
Thymus	***dolopicus***	FORM.	Lab	C suff rep aest
Thymus	***granatensis***	BOISS.	Lab	C suff rep hib
Thymus	***hirtus***	WILLD.	Lab	C suff rep aest
Thymus	***holosericeus***	CELAK.	Lab	C suff rep hib
Thymus	***hyemalis***	LANGE	Lab	C suff caesp
Thymus	***kirgisorum***	DUBJANKY	Lab	C suff rep hib
Thymus	***laconicus***	JALAS	Lab	C suff rep hib
Thymus	***leptophyllus***	LANGE	Lab	C suff rep aest
Thymus	***longiflorus***	BOISS.	Lab	C suff caesp
Thymus	***loscosii***	WILLK.	Lab	C suff rep aest
Thymus	***mastichina***	L.	Lab	C suff caesp
Thymus	***mastigophorus***	LACAITA	Lab	C suff rep aest
Thymus	***membranaceus***	BOISS.	Lab	C suff caesp
Thymus	***parnassicus***	HALĹCSY	Lab	C suff rep aest
Thymus	***piperella***	L.	Lab	C suff rep hib
Thymus	***plasonii***	ADAMOVIC	Lab	C suff rep hib
Thymus	***serpylloides***	BORY	Lab	C suff rep aest
Thymus	***spinulosus***	TEN.	Lab	C suff caesp
Thymus	***striatus***	VAHL.	Lab	C suff rep hib
Thymus	***teucrioides***	BOISS. et SPRUNER	Lab	C suff caesp
Thymus	***tomentosus***	WILLD.	Lab	C suff caesp
Thymus	***villosus***	L.	Lab	C suff caesp
Thymus	***vulgaris***	L.	Lab	C suff caesp
Thymus	***zygioides***	GRISEB.	Lab	C suff rep aest
Thymus	***zygis***	L.	Lab	C suff caesp
Tilia	***cordata***	MILLER	Til	P scap aest fron

Fortsetzung Anhang 2. Die Lebensformen der Dendroflora-Arten Europas

Gattung	Art	Verfasser	Familie	Lebensform
Tilia	***dasystyla***	STEVEN	Til	P scap aest fron
Tilia	***platyphyllos***	SCOP.	Til	P scap aest fron
Tilia	***rubra***	DC.	Til	P scap aest fron
Tilia	***tomentosa***	MOENCH	Til	P scap aest fron sob
Ulex	***argentus***	WELW.	Leg	C frut caesp aest
Ulex	***densus***	WELW.	Leg	C frut caesp aest
Ulex	***europaesus***	L.	Leg	P caesp aest
Ulex	***gallii***	PLANCHON	Leg	P caesp aest
Ulex	***micranthus***	LANGE	Leg	C frut caesp aest
Ulex	***minor***	ROTH	Leg	P caesp aest
Ulex	***parviflorus***	POURRET	Leg	P caesp aest
Ulmus	***canescens***	MELVILLE	Ulm	P scap aest fron
Ulmus	***elliptica***	C. KOCH	Ulm	P scap aest fron
Ulmus	***glabra***	HUDSON	Ulm	P scap aest fron
Ulmus	***laevis***	PALLAS	Ulm	P scap aest fron
Ulmus	***minor***	MILLER	Ulm	P scap aest fron sob
Ulmus	***procera***	SALISB.	Ulm	P scap aest fron sob
Vaccinium	***arctostaphylos***	L.	Eri	P caesp aest
Vaccinium	***cylindraecum***	SM.	Eri	P caesp aest
Vaccinium	***macrocarpon***	AITON	Eri	C frut rep semp
Vaccinium	***microcarpum***	(TURCZ.) SCHMALH.	Eri	C frut rep semp
Vaccinium	***myrtillus***	L.	Eri	C frut caesp aest sob
Vaccinium	***oxycoccos***	L.	Eri	C frut rep semp
Vaccinium	***uliginosum***	L.	Eri	C frut caesp aest sob
Vaccinium	***vitis-idaea***	L.	Eri	C frut caesp semp sob
Vella	***pseudocytisus***	L.	Cru	C suff caesp
Vella	***spinosa***	BOISS.	Cru	C suff caesp
Verbascum	***spinosum***	L.	Scr	C suff caesp
Viburnum	***lantana***	L.	Capr	P caesp aest
Viburnum	***opulus***	L.	Capr	P caesp aest
Viburnum	***tinus***	L.	Capr	P caesp semp cor
Viola	***arborescens***	L.	Vio	C suff caesp
Viola	***cazorlensis***	GAND.	Vio	C suff caesp
Viola	***delphinantha***	BOISS.	Vio	C suff caesp
Viola	***kosaninii***	(DEGEN) HAYEK	Vio	C suff caesp
Viola	***scorpiuroides***	COSSON	Vio	C suff caesp
Viscum	***album***	L.	Lor	P ep semp
Viscum	***cruciatum***	SIEBER	Lor	P ep semp
Vitex	***agnus-castus***	L.	Ver	P caesp aest
Vitis	***vinifera***	L.	Vit	P scand aest cirr
Withania	***frutescens***	(L.) PAUQUY	Sol	P caesp aest
Withania	***somnifera***	(L.) DUNAL	Sol	P caesp aest
Zelkova	***abelicea***	(LAM.) BOISS.	Ulm	P caesp aest
Ziziphus	***lotus***	(L.) LAM.	Rham	P caesp aest
Zygophyllum	***album***	L. f.	Zyg	C suff caesp

Autor:

DÉNES BARTHA
Westungarische Universität
Forstliche Fakultät
Institut für Botanik
H-9401 Sopron, PF.: 132
Ungarn

https://doi.org/10.64610/tilia.1999.07k.ksz.02

Tilia	Vol. 7. Suppl. (1999)	31-44.

Annotated checklist of the Hungarian dendrotaxa

DÉNES BARTHA

Introduction

First scholar checklist of Central-European flora was compiled by EHRENDORFER (1973), in which species and subspecies of Pteridophytes, Gymnospermae and Angiospermae are listed. Presence or absence of each species in Central-European countries were also displayed as additional information. (To be noted, that regions eastward to the river Danube were not included in Central-Europe, therefore the list were not complete in the Hungarian relation.) Checklist of the Hungarian flora was gathered by SOÓ (1980), which is held a synopsis of the critical elaboration of the Hungarian flora (SOÓ, 1964-1973). Only species level taxa are included in this work, with information of their occurrences in Hungary. A simplified version of this checklist was compiled by PRISZTER (1985). In the 1990's – both inland and abroad – checklists was brought in the centre of interest (BARTHA, 1992-93; HORVÁTH et al., 1995; BORHIDI, 1995), as they help the conservation activities, and electronic data-processing. Present study lists dendrotaxa (trees, shrubs, wooded lianas, sub-shrubs, dwarf scrubs) occurring in actual borders of Hungary. Unified and valid nomenclature are applied, additional information and concrete occurrences are included. The purpose of this list for the future is to cover a greater geographic region, the whole territory of the Carpathian-Pannon region.

Marks symbolizing the occurrence status are the same as in European flora-mapping program (JALAS & SUOMINEN, 1972), which are the followings:

Symbols

\+ = extinct

x = probably extinct, or, at least, not recorded since 1950

● = native occurence

○ = introduction (established alien)

□ = status unknown or uncertain

? = record uncertain as to identification or locality

Present territory of Hungary is covered by six geographic units (partially or wholly), their situations can be seen in Fig. 1., and are listed in Tab. 1.

Rarity of the taxa are also displayed in the checklist. Information on the life form of the species can be found in compilation of BARTHA (1999).

Tab. 1. Major geographical units of the Carpathian-Pannon region

1. Nagyalföld / Vel'ka dunajská nížina / Szerednyedunajska nizovina / Câmpia Dunării de Mijloc / Panonska nizija
2. Kisalföld és peremvidéke / Malá dunajská nížina / Kleine Ungarische Tiefebene
3. Duna-Morva-medence / Donau-März Becken / Moravsko-Viedenská kotlina
4. Nyugat-Dunántúl / West-Transdanubien
5. Dél-Dunántúl
6. Dráva-Száva vidék
7. Dunántúli-középhegység
8. Északnyugati-Kárpátok / Západné Karpaty / Karpaty Zachodnie / Westkarpathen

8.a. Északi-középhegység / Matransko-slanská hornatina

8.b. Belső-Északnyugati Kárpátok / Vnútorné Západné Karpaty / Wewnetrzne Karpaty Zachodnie

8.c. Külső-Északnyugati-Kárpátok / Vonkajšie Západné Karpaty / Zewnętrzne Karpaty Zachodnie

9. Északkeleti-Kárpátok / Východné Karpaty / Karpaty Wschodnie / Szhidni Karpati / Carpații Orientali – grupa nordică
10. Erdélyi-szigethegység / Munții Apuseni
11. Erdélyi-medence / Depresiunea Transilvaniei
12. Keleti-Kárpátok / Carpații Orientali – grupa centrală şi sudică
13. Déli-Kárpátok / Carpații Meridionali
14. Bánsági-hegyvidék / Carpații Banatului
15. Elő-Kárpátok / Subcarpații
16. Kárpátmellék / Vněkarpatské sníženiny / Podkarpacie / Prikarpattya
17. Moldvai-hátság / Podişul Moldovei
18. Géta-hátság / Podişul Getic
19. Román-alföld / Câmpia Română
20. Duna-deltavidék / Delta Dunării / Delta Dunaja

References

BARTHA, D. (1992-93): The floristical, cenological and nature conservation indexes of taxa of the Hungarian dendroflora. – Erdészeti és Faipari Tudományos Közlemények **38-39**: 13-32.

BARTHA, D. (1999): Bewertung der Dendroflora Europas auf Grund der Lebensformen. – Tilia **7**(Suppl.): 3-30.

BORHIDI, A. (1995): Social behaviour types, the naturalness and relative ecological indicator values of the higher plants in the Hungarian Flora. – Acta Botanica Hungarica **39**(1-2): 97-181.

EHRENDORFER, F. (Hrsg.) (1973): Liste der Gefäßpflanzen Mitteleuropas. – Gustav Fischer Verlag, Stuttgart, pp. 320.

HORVÁTH, F. – DOBOLYI, Z. K. – MORSCHHAUSER, T. – LŐKÖS, L. – KARAS, L. – SZERDAHELYI, T. (1995): Flóra adatbázis 1.2. Taxon-lista és attribútum-állomány. – MTA Ökológiai és Botanikai Kutatóintézet, Vácrátót, pp. 268.
JALAS, J. – SUOMINEN, J. (1972): Atlas Florae Europaeae. Distribution of vascular plants in Europe I. – Helsinki, pp. 48.
PRISZTER, SZ. (1985): Catalogus cormophytorum Hungariae. In: PRISZTER SZ. (ed.): Synopsis systematico-geobotanica florae vegetationisque Hungariae VII. – Akadémiai Kiadó, Budapest, p. 120-254.
SOÓ, R. (1964-1973): Synopsis systematico-geobotanica florae vegetationisque Hungariae I-V. – Akadémiai Kiadó, Budapest.
SOÓ, R. (1980): Conspectus florae vegetationisque Hungariae. In: SOÓ R.: Synopsis systematico-geobotanica florae vegetationisque Hungariae VI. – Akadémiai Kiadó, Budapest, p. 261-524.

Author:

DÉNES BARTHA
University of West Hungary
Faculty of Forestry
Department of Botany
H-9401 Sopron, Bajcsy-Zs. u. 4.
Hungary

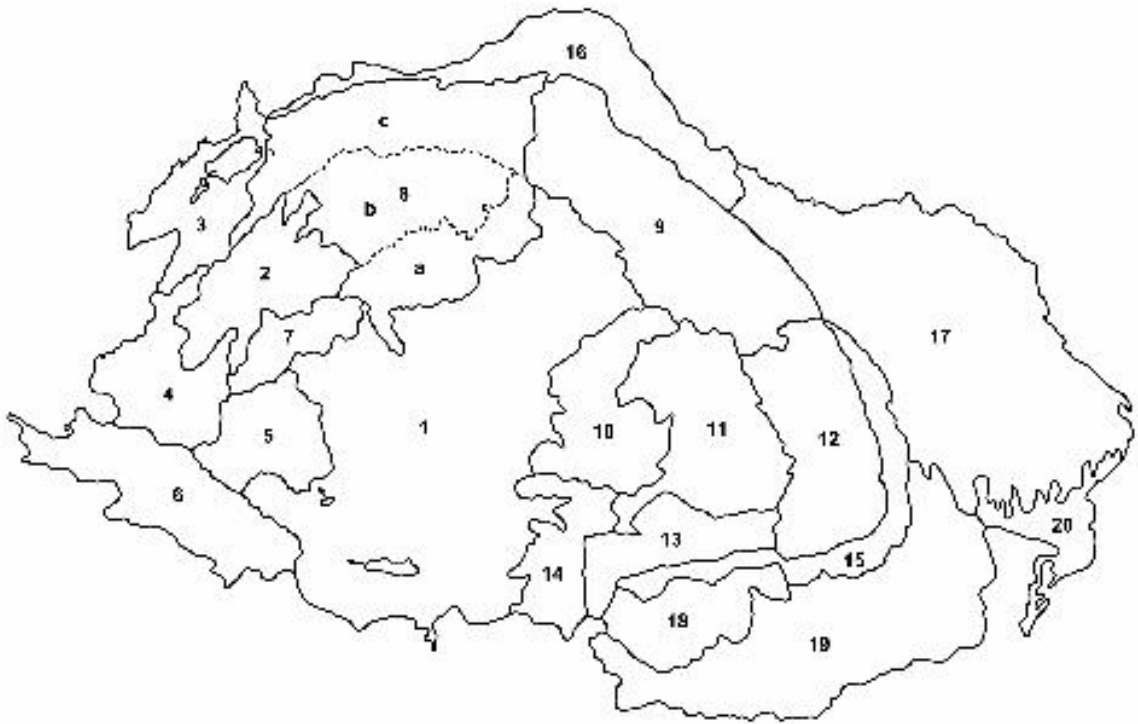


Fig. 1. Major geographical units of the Carpathian-Pannon region

Taxon (species / subspecies)	Region						Notes
	1	2	4	5	7	8a	
Abies alba MILLER			□				
Acer campestre L.	●	●	●	●	●	●	
Acer negundo L.	○	○	○	○	○	○	
Acer platanoides L.	○	○	□	●	●	●	
Acer pseudoplatanus L.	○	○	●	●	●	●	
Acer tataricum L.	●	●	□	●	●	●	
Ailanthus altissima (MILL.) SWINGLE	○	○	○	○	○	○	
Alnus glutinosa (L.) GAERTNER	●	●	●	●	●	●	
Alnus incana (L.) MOENCH	●	●	●	●		●	
Alnus viridis (CAHIX) DC.			●				
Amelenchier ovalis MEDICUS					●		
Amorpha fruticosa L.	○	○	○	○	○	○	
Amygdalus nana L.	●			●	●	●	
Andromeda polifolia L.					+		
Bassia prostrata (L.) A. J. SCOTT	●						
Berberis vulgaris L.	●	●	●	●	●	●	
Betula pendula ROTH	●	●	●	●	●	●	
Betula pubescens EHRH.	●	●	●	●	●	●	
Calluna vulgaris (L.) HULL.			●	●	●	●	5: rare
Carpinus betulus L.	●	●	●	●	●	●	1: rare
Carpinus orientalis MILLER					●		7: rare
Castanea sativa MILLER			□	□	○	○	
Celtis occidentalis L.	○	○		○	○	○	
Cerasus avium (L.) MOENCH	●	●	●	●	●	●	
Cerasus fruticosa (PALLAS) WORONOW	●	●	●	●	●	●	
Cerasus mahaleb (L.) MILLER					●	●	
Chamaecytisus albus (JACQ.) ROTHM.						●	

Taxon (species / subspecies)	Region						Notes
	1	2	4	5	7	8a	
Chamaecytisus austriacus (L.) LINK	●	●	●	●	●	●	4: rare
Chamaecytisus ciliatus (WAHLENB.) ROTHM.					●		
Chamaecytisus heuffelii (WIERZB.) ROTHM.				●			
Chamaecytisus hirsutus (L.) LINK		●	●	●	●	●	
Chamaecytisus ratisbonensis (SCHAEFFER) ROTHM.	●	●	●	●	●	●	
Chamaecytisus supinus (L.) LINK	●	●	●	●	●	●	1,2: rare
Chamaespartium sagittale (L.) P. GIBBS.		●	●	●	●	●	
Chimaphila umbellata (L.) W. BARTON			●			●	
Clematis alpina (L.) MILLER						●	
Clematis vitalba L.	●	●	●	●	●	●	
Colutea arborescens L.	?	?	●	●	●	●	
Cornus mas L.	●	●	●	●	●	●	
Cornus sanguinea L.	●	●	●	●	●	●	
Coronilla emerus L.				●	●		5: rare
Coronilla vaginalis LAM.					●		
Corylus avellana L.	●	●	●	●	●	●	
Cotinus coggygria SCOP.				●	●	●	
Cotoneaster integerrimus MEDICUS			●	+	●	●	
Cotoneaster niger (THUNB.) FRIES			?		●	●	
Cotoneaster tomentosus (AIT.) LINDL.				?	●		
Crataegus calycina PETERM.			●		●	●	
Crataegus laevigata (POIRET) DC.	●	●	●	●	●	●	
Crataegus monogyna JACQ.	●	●	●	●	●	●	
Crataegus nigra WALDST. et KIT.	●						
Cytisus procumbens (WALDST. et KIT.) SPRENGEL					●	●	

Taxon (species / subspecies)	Region						Notes
	1	2	4	5	7	8a	
Daphne cneorum L.							
ssp. *arbusculoides* (TUZSON) SOÓ			●				
ssp. *cneorum*	+	●		?	●	●	2: rare, 8a: rare
Daphne laureola L.					●	?	
Daphne mezerum L.	●		●	●	●	●	1: rare
Elaeagnus angustifolia L.	○	○	○	○	○	○	
Ephedra distachya L.	●			?	●		7: rare
Euonymus europaeus L.	●	●	●	●	●	●	
Euonymus verrucosus SCOP.	●	●	●	●	●	●	
Fagus sylvatica L.	●	●	●	●	●	●	1,2: rare
Frangula alnus MILLER	●	●	●	●	●	●	
Fraxinus angustifolia VAHL.							
ssp. *pannonica* SOÓ et SIMON	●	●		●			
Fraxinus excelsior L.		●	●	●	●	●	
Fraxinus ornus L.			○	●	●	●	
Fraxinus pennsylvanica MARSH.	○	○	○	○	○	○	
Fumana procumbens (DUNAL) GREN. et GODRON	●	●	●	●	●	●	
Genista germanica L.		●	●	●	●	●	
Genista ovata W. et K.			●	●	●	●	
Genista pilosa L.			●	●	●	●	
Genista tinctora L.	●	●	●	●	●	●	
Globularia cordifolia L.			●				4: only 1 locality
Hedera helix L.	●	●	●	●	●	●	
Helianthemum canum (L.) BAUMG.			●	●	●	●	
Helianthemum nummularium (L.) MILLER							
Helianthemum ovatum (VIV.) DUN.	●	●	●	●	●	●	
Hippophaë rhamnoides L.	●	+	+				1: only 1 locality

Taxon (species / subspecies)	Region						Notes
	1	2	4	5	7	8a	
Juniperus communis L.	●	●	●	●	●	●	
Krascheninnikovia ceratoides (L.) GUELDENST.	+						
Laburnum anagyroides MEDICUS			○	□	○	○	
Larix decidua MILLER			□				
Lembotropis nigricans (L.) GRISEB.	●	●	●	●	●	●	1,2: rare
Ligustrum vulgare L.	●	●	●	●	●	●	
Lonicera caprifolium L.			○	●	●	●	
Lonicera nigra L.						●	
Lonicera xylosteum L.		●	●	●	●	●	2: rare
Loranthus europaeus JACQ.	●	●	●	●	●	●	
Lycium barbarum L.	○	○	○	○	○	○	
Malus dasyphylla BORKH.	●				●		
Malus sylvestris MILLER	●	●	●	●	●	●	
Morus alba L.	○	○		○			
Myricaria germanica (L.) DESV.	+	+	+	●			
Ononis arvensis L.	●	●	●	●	●	●	
Ononis spinosa L.	●	●	●	●	●	●	
Orthilia secunda (L.) HOUSE	○		●	●	●	●	
Ostryq carpinifolia SCOP.				+			
Padus avium (L.) MILLER	●	●	●	●	●	●	
Parthenocissus inserta (KERN.) FRITSCH.	○	○	○	○	○	○	
Pdus serotina (EHRH.) BORKH.	○	○	○	○	○	○	
Picea abies (L.) KARSTEN	○	○	□	○	○	○	
Pinus nigra ARNOLD	○	○	○	○	○	○	
Pinus sylvestris L.	○	○	●	○	○	○	
Populus alba L.	●	●	●	●	●	●	
Populus nigra ARNOLD	●	●	●	●	●	●	

Taxon (species / subspecies)	Region						Notes
	1	2	4	5	7	8a	
Populus tremula L.	●	●	●	●	●	●	
Prunus spinosa L.	●	●	●	●	●	●	
Ptelea trifoliata L.	○						
Pyrus austiaca A. KERNER			□				
Pyrus magyarica TERPÓ					●		
Pyrus nivalis JACQ.			●		●	●	
Pyrus pyraster BURGSD.	●	●	●	●	●	●	
Quercus cerris L.	○	●	●	●	●	●	
Quercus dalechampii TEN.			●	●	●	●	
Quercus frainetto TEN.			○	○	○	○	
Quercus petraea (MATTUSCHKA) LIEBL.			●	●	●	●	
Quercus polycarpa SCHUR.			●	●	●	●	
Quercus pubescens WILLD.	●	●	●	●	●	●	1: rare, 2: rare
Quercus robur L.	●	●	●	●	●	●	
Quercus virgiliana (TEN.) TEN.	●	●	●	●	●	●	1: rare, 2: rare
Rhamnus catharticus L.	●	●	●	●	●	●	
Rhamnus saxatilis JACQ.			●				
Ribes alpinum L.					●	●	
Ribes aureum PURSCH	○						
Ribes nigrum L.	□	●	□	□		□	
Ribes petraeum WULFEN						+	
Ribes rubrum L. ssp. *sylvestre* (LAM.) SYME	□	□	□	□	□	□	
Ribes uva-crispa L.		●	●	●	●	●	2: rare
Robinia pseudoacacia L.	○	○	○	○	○	○	
Rosa agrestis SAVI	●	●	●	●	●	●	
Rosa arvensis HUDS.	●				●	●	
Rosa caesia SM. ex SOW.	●					●	1: rare

Taxon (species / subspecies)	Region						Notes
	1	2	4	5	7	8a	
Rosa canina L.	●	●	●	●	●	●	
Rosa caryophyllacea BESS.							
Rosa corymbifera BORKH.	●	●	●	●	●	●	
Rosa dumalis BECHST.	●		●		●	●	
Rosa elliptica TAUSCH	●				●	●	
Rosa gallica L.	●	●	●	●	●	●	
Rosa gizellae BORB.						●	8a: only 1 locality
Rosa glauca POURRET						●	8a: only 1 locality
Rosa hungarica (BORB.) DEGEN					●	●	8a: rare
Rosa inodora FR. em. KLÁST.	●	●	●				4: only 1 locality
Rosa kmetiana BORB.						●	8a: only 1 locality
Rosa livescens BESS.	●	●	●	●	●	●	
Rosa micrantha SM. in SOW.	●	●	●	●	●	●	1: only 1 locality
Rosa obtusifolia DESV.	?	?	?	?	?	?	
Rosa pendulina L.			●			●	
Rosa polyacantha (BORB.) DEGEN				●	●		5: rare
Rosa rubiginosa L.	●	●	●	●	●	●	
Rosa scabriuscula SM.						●	8a: only 1 locality
Rosa sherardii DAVIES	●						1: only 1 locality
Rosa spinosissima L.	●		●	●	●	●	
Rosa stylosa DESV.						●	8a: only 1 locality
Rosa subcanina (CHRIST) DALLA TORRE et SARNTH.			?	?	?	?	
Rosa subcollina (CHRIST) DALLA TORRE et SARNTH.	●		●		●	●	
Rosa szaboi (BORB.) FACSAR				●	●		5,7: rare
Rosa tomentosa SM.			●	●	●	●	7: rare
Rosa villosa L. var. *sancti-andreae* (DEG. et TRTM.)	□				□		1,7: only 1-1 locality
Rosa zagrebiensis VUKOT. et H. BR. ex KERN.			●	●	●		

Taxon (species / subspecies)	Region						Notes
	1	2	4	5	7	8a	
Rosa zalana WIES.			●	●	●	●	4: rare
Rubus caesius L.	●	●	●	●	●	●	
Rubus canescens DC.			●	●	●	●	
Rubus fructicosus L. agg.	●	●	●	●	●	●	1: rare
Rubus idaeus L.	●	●	●	●	●	●	1: rare
Rubus saxatilis L.					●	●	
Ruscus aculeatus L.			+	●	●		
Ruscus hyppoglossum L.			●	●	●		
Salix alba L.	●	●	●	●	●	●	
Salix aurita L.	●	●	●	●	●	●	
Salix caprea L.	●	●	●	●	●	●	
Salix cinerea L.	●	●	●	●	●	●	
Salix elaeagnos SCOP.	●	●	●	●		●	
Salix fragilis L.	●	●	●	●	●	●	
Salix nigricans SM.	+	+					
Salix pentandra L.	●	+			+	+	
Salix purpurea L.	●	●	●	●	●	●	
Salix rosmarinifolia L.	●	●	●	●	●	●	
Salix triandra L.	●	●	●	●	●	●	
Salix viminalis L.	●	●	●	●	●	●	
Sambucus nigra L.	●	●	●	●	●	●	
Sambucus racemosa L.			●	●		●	5: rare
Sarothamnus scoparius (L.) WIMMER	○	○	□	○	○	○	
Solanum dulcamara L.	●	●	●	●	●	●	
Sorbus aria (L.) CRANTZ			●	●	●	●	
Sorbus aucuparia L.			●	●	●	●	
Sorbus austriaca (G. BECK) HEDL. ssp. *hazslinszkyana* SOÓ						●	8a: rare

Taxon (species / subspecies)	Region						Notes
	1	2	4	5	7	8a	
Sorbus domestica L.			□	□	□	□	
Sorbus gracea (SPACH) KOTSCHY					●	●	
Sorbus torminalis (L.) CRANTZ	●	●	●	●	●	●	1,2: rare
Sorbus torminalis x *Sorbus aria-graeca*					●		
Spiraea crenata L.	+					+	
Spiraea media FR. SCHMIDT	●			●	●	●	1: rare
Spiraea salicifolia L.				□		+	
Staphylea pinnata L.	●	●	●	●	●	●	
Syringa vulgaris L.					○	○	
Taxus baccata L.					●	●	7,8a: rare
Teucrium chamaedrys L.	●	●	●	●	●	●	
Teucrium montanum L.	●	●	●	●	●	●	1: rare
Teucrium scorodonia L.			●				4: only 1 locality
Tilia cordata MILLER	●	●	●	●	●	●	
Tilia platyphyllos SCOP.				●	●	●	
Tilia tomentosa MOENCH	●			●			1: rare
Ulmus glabra HUDSON	●	●	●	●	●	●	
Ulmus laevis PALLAS	●	●	●	●	●	●	
Ulmus minor MILLER	●	●	●	●	●	●	
Ulmus procera SALISB.			●	●	●	●	
Vaccinium myrtillus L.			●		●	●	
Vaccinium oxycoccos L.	●				+		
Vaccinium vitis-idaea L.			●	●		●	
Viburnum lantana L.	●	●	●	●	●	●	
Viburnum opulus L.	●	●	●	●	●	●	

Taxon (species / subspecies)	Region						Notes
	1	2	4	5	7	8a	
Viscum album L.	●	●	●	●	●	●	
ssp. *abietis* (WIESB.) ABROM.							
ssp. *album*							
ssp. *austriacum* (WIESB.) VOLLM.							
Vitis riparia MICHX.	○						
Vitis rupestris SCHEELE						○	
Vitis sylvestris C. C. GMELIN	●	●		●	●	●	

https://doi.org/10.64610/tilia.1999.07k.ksz.03

Tilia	Vol. 7. Suppl. (1999)	45-68.

Floristic, cenologic, ecological and conservation indexes of the Hungarian dendrotaxa

DÉNES BARTHA

Introduction

Summaries of the flora of certain area units (i.e. countries) provide short information to help the statistical analysis, electronic data-processing and as well as the comparison of different areas. Such compilations of the flora of some countries have been recently published (LANDOLT, 1977; ELLENBERG, 1979; ELLENBERG et al., 1992; SOÓ, 1980; FRANK – KLOTZ, 1988). In present work floristic, phytocoenologic, ecological, conservational indexes of tree and shrub species of Hungary are collected.

Nomenclature

The valid scientific names follow the nomenclature of PRISZTER (1983, 1985) and TUTIN et al. (1964-80). The more important synonyms are listed below:

Amygdalus nana L.	= *Prunus tenella* BATSCH
Betula pendula ROTH	= *B. verrucosa* EHRH.
Cerasus avium (L.) MOENCH	= *Prunus avium* L.
C. fruticosa (PALLAS) WORONOW	= *P. fructicosa* PALLAS
C. mahaleb (L.) MILLER	= *P. mahaleb* L.
Crataegus laevigata (POIRET) DC.	= C. *oxyacantha* L. em JACQ.
Lycium barbarum L.	= *L. halimfolium* MILL.
Padus avium (L.) MILLER	= *Prunus padus* L.
P. serotina (EHRH.) BORKH.	= *P. serotina* EHRH.
Rosa caesia SM. ex SOW	= *R. coriifolia* FR.
R. corymbifera BORKH.	= *R. dumetorum* ROTHM.
R. dumalis BECHST.	= *R. afzeliana* FR.
R. livescens BESS.	= *R. jundzillii* BESS.
Rubus canescens DC.	= *R. tomentosus* BORKH.
Salix nigricans SM.	= *S. myrsinifolia* SALISB.
S. rosmarinifolia L.	= *S. repens* L. ssp. *rosmarinifolia* (L.) HARTM. f.
Sarothamnus scoparius (L.) WIMMER	= *Cytisus scoparius* (L.) LINK
Sorbus graeca (SPACH) KOTSCHY	= *S. cretica* LINDLEY
Tilia tomentosa MOENCH	= *T. argentea* DC.
Ulmus glabra HUDSON	= *U. scabra* MILLER
Vaccinium oxycoccos L.	= *Oxycoccos palustris* PERS.
Vitis riparia MICHX.	= *V. vulpina* L.
V. sylvestris C. C. GMELIN	= *V. vinifera* L. ssp. *sylvestris* (C. C. GMELIN) HEGI

Indigenity, naturalization

Simplified scales of spontaneous and sub-spontaneous occurrence are applied after TERPÓ (1983). The interpreted categories:

Autochtonous plants	au
Allochtonous plants	
archeophytes	ar
neophytes	ne
epoikophytes	ep

Arealtype (floristic element)

Area types follows SOÓ (1964-73).

Adventive	- Adv
Circumboreal	- Circ
Eurasian	- EuA
European	- Eu
Central European	- CEu
Sub-Boreal	- Bor
Sub-Atlantic	- Atl
Sub-Mediterranean	- Med
Balcanian	- Balc
Continental	- Cont
Pontusian	- Pont
Alpian	- Alp
Carpathian	- Carp
Pannonian	- Pann

Regionality (vertical distribution)

Analysis of the vertical distribution – in a narrow sense – refers to the Carpatho-Pannon region.

		Region	m	–	m
1	–	lowland		–	150
2	–	colline	150	–	400
3	–	submontane	400	–	800
4	–	montane	800	–	1200
5	–	subalpine	1200	–	1600
6	–	alpine	1600	–	

Cenotaxonomical (phytosociological) groups

0.	*Indifferent*	15.1.	*Orno-Cotinetalia*
1.	*Querco-Fagea*	1.5.1.1.	*Orno-Cotinion*
1.1.	*Salicetea purpureae*	1.5.1.2.	*Quercion farnetto*
1.1.1.	*Salicetalia purpureae*	1.5.2.	*Quercetalia pubescentis*
1.1.1.1.	*Salicion elaeagni*	1.5.2.1.	*Quercion petraeae*
1.1.1.2.	*Salicion triandrea*	1.5.2.2.	*Aceri tatarico-Quercion*
1.1.1.3.	*Salicion albae*	1.5.3.	*Prunetalia*
1.2.	*Alnetea glutinosae*	1.5.3.1.	*Prunion spinosae*
1.2.1.	*Alnetalia glutinosae*	1.5.3.2.	*Prunion fruticosae*
1.2.1.1.	*Alnion glutinosae*	2.	*Abieti-Piceea*
1.2.2.	*Salicetalia auritae*	2.1.	*Erico-Pinetea*
1.2.2.1.	*Salicion cinereae*	2.1.1.	*Erico-Pinetalia*
1.3.	*Carpino-Fagetea*	2.1.1.1.	*Erico-Pinion*
1.3.1.	*Fagetalia*	2.2.	*Pulsatillo-Pinetea*
1.3.1.1.	*Alno-Padion* or *Alno-Ulmion*	2.2.1.	*Pulsatillo-Pinetalia*
1.3.1.1.a.	*Ulmion*	2.2.1.1.	*Festuco vaginatae-Pinion*
1.3.1.1.b.	*Alnion glutinosae-incanae*	2.3.	*Vaccinio-Piceeta*
1.3.1.2.	*Fagion medio-europaeum*	2.3.1.	*Vaccinio-Piceetalia*
1.3.1.2.a.	*Asperulo-Fagion*	2.3.1.1.	*Abieti-Piceion*
1.3.1.2.b.	*Cephalanthero-Fagion*	3.	*Oxycocco-Caricea*
1.3.1.2.c.	*Tilio-Acerion*	4.	*Molinio-Arrhenatherea*
1.3.1.2.d.	*Carpinion betuli*	5.	*Festuco-Bromea*
1.3.1.3.	*Fagion illyricum*	5.1.	*Festucetea vaginatae*
1.4.	*Quercetea robori-petraeae*	5.2.	*Festuco-Brometea*
1.4.1.	*Pino-Quercetalia*	6.	*Chenopodio-Scleranthea*
1.4.1.1.	*Castaneo-Quercion*	6.1.	*Secalietea*
1.4.1.2.	*Genisto germanicae-Quercion*	6.2.	*Galio-Urticetea*
1.4.1.3.	*Pino-Quercion*	6.3.	*Bidentetea tripartitae*
1.4.1.4.	*Deschampsio-Fagion*	6.4.	*Epilobietea angustifolii*
1.5.	*Quercetea pubescenti-petraeae*	6.5.	*Urtico-Sambucetea*

Ecological indicator values

Ecological indexes of ZÓLYOMI et al. (1967), SOÓ (1964-80) and BORHIDI (1995) are applied with certain modifications.

a. Temperature figures (T)

0 – Indifferent plants
1 – Thermophobous plants
2 – Mostly thermophobous plants
3 – Intermediate plants between 2 and 4
4 – Mostly thermophilous plants
5 – Thermophilous plants

b. Moisture figures (W)

0 – Indifferent plants
1 – Xerophilous plants
2 – Xeromesophilous plants
3 – Mesophilous plants
4 – Higromesophilous plants
5 – Higrophilous plants

c. Reaktion figures (R)

0 – Indifferent plants
1 – Acidophilous plants
2 – Acidifrequent plants
3 – Neutrophilous plants
4 – Basifrequent plants
5 – Basiphilous plants

d. Nitrogen figures (N)

0 – Indifferent plants
1 – Plants of habitats extremely poor in nitrogen
2 – Plants of oligotrophic habitats
3 – Plants of mesotrophic habitats
4 – Plants of saprotrophic habitats
5 – Plants of habitats extremely rich in nitrogen

Kind of pollination

e – entomophilous
an – anemophilous
ap – apogamous

Kind of fruit- and seed spreading

z – endozoochorous
h – hidrochorous
a – anemochorous

Social behaviour types (SBT)

The social behaviour types of the Hungarian plant species are based on the work of BORHIDI (1995). The categories of the SBT are placed as follows:

I. Competitors	C
II. Stress tolerants	ST
A. Stress tolerants of narrow ecology: Specialists	S
B. Stress tolerants of wide ecology: Generalists	G
III. Ruderals	R
A. Plants of habitats disturbed by natural factors: Natural pioneers	NP
B. Plants of habitats disturbed by human factors	
1. Disturbance tolerant plants of natural habitats	DT
2. Anthropophilous elements of the native flora: native weed species	W
3. Anthropogenic elements alien to the region	
a. Introduced crops running wild	I
b. Adventitious weeds	A
4. Competitors of secondary habitats	
a. Ruderal competitors of the natural flora	RC
b. Alien competitors, aggressive invadors	AC

Nature conservation ranks (NCR)

The categories of the nature conservation ranks of the Hungarian plant species are based on the work of SIMON (1988).

Unique or rare species (endemics, subendemics, relics)	U
Natural species predominating in plant communites	E
Main components, also native to the area	K
Natural pioneer elements	TP
Native species that tolerate disturbance	TZ
Adventives	A
Cultivated plants	G
Cosmopolitan weeds	GY

Symbols:

? – doubtful
† – extinct

References

BORHIDI, A. (1995): Social behaviour types, their naturalness and relative ecological indicator values of the higher plants of the Hungarian Flora. – Acta Botanica Hungarica (Budapest) **39**: 97-182.

ELLENBERG, H. (1979). Zeigerwerte der Gefässpflanzen Mitteleuropas. – Scripta Geobotanica (Göttingen) **9**: 1-122.

ELLENBERG, H. – WEBER, H. E. – DÜLL, R. – WIRTH, V. – WERNER, W. – PAULISSEN, D. (1992): Zeigerwerte von Pflanzen in Mitteleuropa. – Scripta Geobotanica (Göttingen) **18**: 1- 258.

FRANK, D. – KLOTZ, S. (1988): Biologisch-ökologische Daten zur Flora der DDR. – Wissenschaftliche Beiträge (Halle) **60**: 1-103.
LANDOLT, E. (1977): Ökologische Zeigerwerte zur Schweizer Flora. – Veröffentlichungen des Geobot. Inst. ETH, Stiftung Rübel (Zürich) **64**: 1-208.
PRISZTER, SZ. (1983): Arbores fructicesque Europae. Vocabularium octo linguis redactum. – Akadémiai Kiadó, Budapest.
PRISZTER SZ. (1985): A magyar flóra és vegetáció rendszertani-növényföldrajzi kézikönyve VII. Mutatók. [Synopsis systematico-geobotanica florae vegetationisque Hungariae VII. Indices.] – Akadémiai Kiadó, Budapest.
SIMON T. (1988): A hazai edényes flóra természetvédelmi-érték besorolása. [Nature conservation ranks of the Hungarian vascular flora.] – Abstracta Botanica (Budapest) **12**: 1-23.
SOÓ R. (1964-80): A magyar flóra és vegetáció rendszertani-növényföldrajzi kézikönyve I-VI. [Synopsis systematico-geobotanica florae vegetationisque Hungariae I-VI.] – Akadémiai Kiadó, Budapest.
TERPÓ A. (1983): Az emberi befolyás alatt álló flóra helyzete és osztályozása Magyarországon. – Kertgazdaság (Budapest) **15**(4): 1-9.
TUTIN, T. G. et al. (eds.) (1964-80): Flora Europaea I-V. – University Press, Cambridge.
ZÓLYOMI, B. – BARÁTH, Z. – FEKETE, G. – JAKUCS, P. – KÁRPÁTI, I. – KÁRPÁTI, V. – KOVÁCS, M. – MÁTHÉ, I. (1967): Einreihung von 1400 Arten der ungarischen Flora in ökologische Gruppen nach TWR-Zahlen. – Fragmenta Bot. Mus. Hist.-Nat. Hung. (Budapest) **4**: 101-142.

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Abies alba MILLER	au?	CEu	4-5	2.3.1.1.	2	3	2-3	0	an	a	C	K(G)
Acer campestre L.	au	Eu	1-3	1.3., 1.4., 1.5.	3-4	2-3	3-4	2-3	e	a	G	K
Acer platanoides L.	au	Eu	3-4	1. (1.3.)	3	3	3-4	3-4	e	a	G	K
Acer pseudoplatanus L.	au	CEu-Med	4	1.3. (1.3.1.2.c.)	2-3	3	4	3-4	e	a	S	K
Acer tataricum L.	au	Cont	1-2	1.5. (1.5.2.2.)	4	2	4	1	e	a	S	K
Acer negundo L.	ne	Adv	1	1.1.1.3., 1.3.1.1.a.	3	3-4	3-4	2-3	e	a	AC	GY
Ailanthus altissima (MILL.) SWINGLE	ne	Adv	1	6.	4	1-2	3	3-4	e	a	AC	GY
Alnus glutinosa (L.) GAERTNER	au	Eu	1-4	1.2., 1.3.1.1.b.	2	4-5	2-3	0	an	a, h	C	E
Alnus incana (L.) MOENCH	au	Bor-CEu	1-5	1.1.1.3., 1.3.1.1.b.	1-2	4	4	0	an	a, h	G	K
Alnus viridis (CHAIX) DC.	au	Alp-Carp-Balc	4-6	1.4.1.3.	2	3	2-3	2	an	a	S	K
Amelanchier ovalis MEDICUS	au	CEu-Med	3-4	1.5.1.1.	4	1-2	4-5	1	e	z	C	K

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Amorpha fruticosa L.	ne	Adv	1	6.2., 6.3.	4	3-4	3-4	4-5	e	z	AC	GY
Amygdalus nana L	au	Cont	1-2	1.5.2.2., 1.5.3.2.	3-4	1-2	3-4	2	e	z	S	E
Andromeda polifolia L.	au†	Circ	4-5	3.	2	4-5	1	1	e	z	S	K
Berberis vulgaris L.	au	CEu-Med	1-3	1.5. (1.5.3.)	4	2	4	2	e	z	G	K
Betula pendula ROTH	au	EuA	1-5	1. (1.4.), 2.	1-2	2-3	2-3	0	an	a	C	TP
Betula pubescens EHRH.	au	EuA	1-5	1.2., 1.4.	1-2	3-4	1-2	2	an	a	S	K
Calluna vulgaris (L.) HULL.	au	Atl-Bor	2-6	1.4., 2.3.1.1.	1-2	2	1	1	e	a	S	K
Carpinus betulus L.	au	CEu	1-3	1.3., 1.4.	3	3	2-4	2	an	a, z	C	E
Carpinus orientalis MILLER	au	Balc-Pont	2-3	1.5.1.1.	4	2	5	1	an	a, z	S	U
Castanea sativa MILLER	au?, ar?	Med	2-3	1.4. (1.4.1.1.)	4	2-3	2	2	e(an)	z	S	K
Celtis occidentalis L.	ne	Adv	1	1.3.1.1.a.	3	3-4	3-4	3-4	an	z	I	A(G)

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Cerasus avium (L.) MOENCH	au	CEu	1-2	1.3. (1.3.1.2.d.)	4	3	4	3	e	z	S	K
Cerasus fruticosa (PALLAS) WORONOW	au	Cont	1-2	1.5. (1.5.3.2.)	3	1-2	4-5	2	e	z	G	K
Cerasus mahaleb (L.) MILLER	au	EuA-Med	2-3	1.5.	4	1-2	4-5	2-3	e	z	C	K
Clematis alpina (L.) MILLER	au	Alp-Carp	5	1.3.1.2.a.b.c.	1	3	4	3-4	e	a	S	K
Clematis vitalba L.	au	CEu-Med	2-4	1.	3-4	3	3-4	3-4	e	a	DT	K
Colutea arborescens L.	au	Med	2-3	1.5. (1.5.1.1., 1.5.2.2.)	4	2	4-5	1-2	e	z	G	K
Cornus mas L.	au	CEu-Med-Pont	2-3	1.5. (1.5.1.1.)	3-4	2-3	4	3	e	z	G	K
Cornus sanguinea L.[1]	au	CEu-Med	1-3	1.	3-4	3-4	4	3	e	z	G	K
Coronilla emerus L.	au	Med	2-3	1.5.1.1.	4-5	1	5	1	e	z	S	K
Corylus avellana L.	au	Eu	1-3	1.	2-3	2-3	2-4	2	an	z	G	K
Cotinus coggygria SCOP.	au	Pont-Med	3	1.5.1.1.	4-5	2	4-5	2	e	a	S	E

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Cotoneaster integerrimus MEDICUS	au	Eu	2-5	1.5. (1.5.1.1.)	4	1-2	4	1	e	z	S	K
Cotoneaster niger (THUNB.) FRIES[2]	au	Cont	3-4	1.5.2.2.	3	1-2	4	1	e	z	G	K
Cotoneaster tomentosus (AIT.) LINDL.	au	Med	3-4	1.5.1.1.	4	1-2	5	1	e	z	C	K
Crataegus laevigata (POIRET) DC	au	CEu-Atl-Balc	2-4	1.	3	3	3-4	2	e	z	G	K
Crataegus monogyna JACQ.[3]	au	Eu	1-4	1. (1.5.3.1.)	3	2-3	3-4	2	e	z	G	K
Crataegus nigra WALDST et KIT.	au	Pann-Balc	1	1.1.1.3., 1.3.1.1.a.	4	3-4	4	2	e	z	S	K
Daphne cneorum L.	au	CEu							e	z	S	K
subsp. *cneorum*	au		1-5	5.2.	3-4	1-2	5	1				
subp. *arbusculoides* (TUZSON) SOÓ	au		2-5	1.4.	3	2-3	2	1				K
Daphne laureola L.	au	Atl-Med	3-4	1.3.1.2., 1.3.1.3., 1.5.1.1.	4-5	3	4	2	e	z	S	K
Daphne mezereum L.	au	EuA	3-5	1.3., 1.4., 2.3.	3	3	3-4	2	e	z	S	K

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Elaeagnus angustifolia L.	ne	Adv	1	6.	4	2	4	4	e	z	I	A(G)
Ephedra distachya L.	au	Cont	1-3	5.	4	1	5	1	an	z	S	U
Euonymus europaeus L.	au	Eu	1-4	1.	3-4	2-3	3-4	2-3	e	z	G	K
Euonymus verrucosus SCOP.	au	Cont	2-3	1.3., 1.4., 1.5.	4	2	4	3	e	z	G	K
Fagus sylvatica L.	au	CEu	3-4	1.3.1.2., 1.3.1.3., 1.4.1.4.	2-3	3	2-3	2-3	an	z	C	E
Frangula alnus MILLER	au	EuA	1-4	1. (1.2., 1.3.1.1., 1.4.)	3-4	3-4	2-3	2	e	z	G	K
Fraxinus angustifolia VAHL. subsp. *pannonica* SOÓ et SIMON	au	Pann-Balc	1-2	1.2.1.1., 1.3.1.1.A.	4	4	3-4	2	an	a	C	E
Fraxinus excelsior L.	au	Eu	1-4	1.3.	3	2-4	4	3-4	an	a	C	K
Fraxinus ornus L.	au	Med	2-3	1.5.1.	4	2	4-5	2	e	a	C	E
Fraxinus pennsylvanica MARSH.	ne	Adv	1	1.1.1.3., 1.3.1.1.a.	4	3-4	3-4	3	an	a	AC	GY
Hedera helix L.	au	Atl-Med	3-5	1. (1.3., 2.3.)	4	3	3	2	e	z	G	K

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Hippophaë rhamnoides L.	au	EuA	1-4	1.1.1.1., 5.1.	3	0	4-5	3-4	an(e)	z	C	K
Juniperus communis L.	au	Circ	1-5	0.	0	1-2	0	1-2	an	z	DT	TZ
Laburnum anagyroides MEDICUS	au, ne	Alp-Balc	3-5	1.5. (1.5.1.1.)	3	2	4-5	1	e	z	S	K
Larix decidua MILLER	au?	CEu	5	1.4.	2	3	3	2	an	a	I	K(G)
Ligustrum vulgare L.	au	Atl-Med	1-3	1.3., 1.4., 1.5.	4	2-3	4	2	e	z	G	K
Lonicera caprifolium L.	au, ne	CEu-Med	2-4	1.3.1.3., 1.5.1.1.	4	2-3	4	2	e	z	G	K
Lonicera nigra L.	au	CEu	4-5	1.4.1.4.	2	3	2-3	2	e	z	S	K
Lonicera xylosteum L.	au	EuA	2-5	1.3., 1.5.	2-3	2-3	4	3	e	z	G	K
Loranthus europaeus JACQ.	au	Pann-Balc	1-3	1.3.1.1.a., 1.3.1.2.d., 1.4.,	-	-	-	-	e	z	G	GY
Lycium barbarum L.	ne	Adv	1-2	1.5.3.	4	3	3	3-4	e	z	AC	GY
Malus sylvestris MILLER	au	Eu-Med	1-3	1. (1.5.)	3	3	3-4	2-3	e	z	G	K

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Morus alba L.	ne	Adv	1	1.3.1.1.a.	4	3-4	3-4	2-3	an	z	I	G
Myricaria germanica (L.) DESV.	au	Bor-CEu	1-5	1.1.1.1.	2	4-5	4	0	e	a	C	K
Ostrya carpinifolia SCOP.	au†	Med	2-3	1.5.1.2.	4-5	2	4	2-3	an	z, a	S	K
Padus avium (L.) MILLER	au	EuA	1-5	1.3.1.1.	2	4	2-3	2	e	z	S	K
Padus serotina (EHRH.) BORKH.	ep	Adv	1-2	1.5.2.2.	3	2-3	3	3-4	e	z	AC	GY
Parthenocissus inserta (KERN.)FRITSCH.	ne	Adv	1-3	6.2.	3	4	2-4	4	e	z	AC	GY
Picea abies (L.) KARSTEN	au?	EuA	4-5	2.3.	2	2-3	2-3	1-2	an	a	I	E(G)
Pinus nigra ARNOLD	au?	Alp-Med	4-5	2.1.	4	1-2	4-5	1	an	a	I	E(G)
Pinus sylvestris L.	au	EuA	2-5	1.4.1.3., 2.1., 2.2.	1-2	0	2-4	1	an	a	C	E(G)
Populus alba L.	au	EuA-Med	1	1.1.1.3., 1.3.1.1.a., 1.5.2.2.	4	0	4	3	an	a, h	C	E
Populus nigra L.	au	EuA-Med	1	1.1., 1.3.1.1.a.	3-4	4	4	3-4	an	a, h	C	E

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Populus tremula L.	au	EuA	1-5	1. (1.4.)	2	0	2	2-3	an	a	G	TZ
Prunus spinosa L.	au	Eu-Med	1-3	1.5. (1.5.3.1.)	3	1-2	3-4	2-3	e	z	C	TZ
Ptelea trifoliata L.	ep	Adv	1	1.3.1.2.d., 1.5.2.2.	3	3	3	3-4	e	a	I	GY
Pyrus magyarica TERPÓ	au	Pann	2	1.5.2.1.	4	2	3-4	2	e	z	G	U
Pyrus nivalis JACQ.	au	CEu-Balc	2-3	1.4., 1.5.1.1., 1.5.2.1.	4	2	3-4	2	e	z	G	
subsp. *nivalis*												U
subsp. *salviifolia* (DC.) SCH. et TH.												K
Pyrus pyraster BURGSD.	au	Eu-Med	1-3	1. (1.5.)	4	2	3-4	2	e	z	G	K
Quercus cerris L.	au	Med	2-3	1.4., 1.5. (1.5.1.2., 1.5.2.1.)	4	2-3	2-4	2-3	an	z	C	E
Quercus frainetto (TEN.) TEN.	au?	Balc	2-3	1.5.1.2.	4	2-3	3-4	2	an	z	S	U(G)
Quercus petraea agg.												

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Quercus dalechampii TEN.	au	Med-Balc	2-4	1.4., 1.5. (1.5.1.2., 1.5.2.1.)	4	2-3	3	2-3	an	z	C	E
Quercus petraea (MATTUSCHKA)LIEBL.	au	CEu	2-4	1.3. (1.3.1.2.d.), 1.4.	3	3	2-3	2-3	an	z	C	E
Quercus polycarpa SCHUR	au	Balc	2-3	1.5. (1.5.1.1., 1.5.2.)	4	2	4	2-3	an	z	C	E
Quercus pubescens WILLD.	au	Med	2-3	1.5.	4	2	4-5	2-3	an	z	C	E
Quercus robur L.	au	Eu	1-2	1.3.1.1.a., 1.3.1.2.d., 1.5.2.2.	3	2-3	2-4	2-3	an	z	C	E
Quercus virgiliana (TEN.) TEN.	au	Med	2-3	1.5.1.1., 1.5.2.2.	4	2	4	2-3	an	z	S	K
Rhamnus catharticus L.	au	EuA	1-4	1.	3	2-3	3-4	2	e	z	G	K
Rhamnus saxatilis JACQ.	au	CEu	3-5	1.5.1.1.	3-4	2	5	1	e	z	S	K
Ribes alpinum L.	au	CEu	4-5	1.3.1.2.a.c.	2	3	4	2	e	z	S	U
Ribes aureum PURSCH	ne	Adv	1-2	1.5.2.2.	3-4	2	3	2-3	e	z	I	G
Ribes nigrum L.	au	EuA	1	1.2.1., 1.3.1.1.a.	3	4	2-3	2	e	z	S	K

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Ribes petraeum WULFEN	au†	CEu	4-5	1.3.1.2.a.	2-3	3	2-3	2	e	z	S	U
Ribes rubrum L. subsp. *sylvestre* (LAM.) SYME	au? ne?	Atl-CEu	1-2	1.1.1.3., 1.2., 1.3.1.1.a.	3	4	3	2-3	e	z	S	K
Ribes uva-crispa L.	au	EuA	3-5	1.3.1.2.	3	2-3	3-4	3	e	z	G	K
Robinia pseudoacacia L.	ne	Adv	1-3	1.5.2.2., 6.	3	2-3	2-3	3-4	e	z, a	AC	E(G)
Rosa agrestis SAVI	au	Med	2-5	1.5.	4	2	4-5	1	e	z	DT	TZ
Rosa arvensis HUDS.	au	Atl-Med	2-5	1.3. (1.3.1.3.)	4	2	3-4	2-3	e	z	G	K
Rosa caesia SM. ex SOW.	au	Eu	1-6	1.5. (1.5.3.)	2	2	4-5	1	e	z	DT	TZ
Rosa canina L.	au	Eu	1-5	1.5. (1.5.3.)	3	2-3	3-5	2	e	z	DT	TZ
Rosa caryophyllacea BESS.	au	Pann-Pont	2-4	1.5.	4	2	4-5	1	e	z	DT	TZ
Rosa corymbifera BORKH.	au	EuA	1-5	1.5. (1.5.3.)	3-4	2	3-5	1	e	z	DT	TZ
Rosa dumalis BECHST.	au	Eu	1-6	1., 6.4.	1-2	2-3	3-5	2	e	z	DT	TZ

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Rosa elliptica TAUSCH	au	CEu	2-5	1.5.	3-4	2	4-5	1	e	z	DT	TZ
Rosa gallica L.	au	CEu-Med	1-4	1.5. (1.5.3.)	4	1-2	3-4	2	e	z	G	K
Rosa livescens BESS.	au	Cont	2-4	1.5.	4	2	4	1	e	z	DT	K
Rosa micrantha SM. in SOW.	au	CEu-Med	2-5	1.5.	4	2	4-5	1	e	z	DT	TZ
Rosa obtusifolia DESV.	au	Atl-Med	2-5	1.5.	3-4	2	4-5	1	e	z	DT	TZ
Rosa pendulina L.	au	CEu	4-6	1.3.1.2.	2	3	4	2	e	z	S	K
Rosa rubiginosa L.	au	Eu	2-5	1.5.	3-4	2	4-5	1	e	z	DT	TZ
Rosa spinosissima L.	au	EuA	1-5	1.5. (1.5.3.)	3	1-2	4-5	1-2	e	z	G	K
Rosa stylosa DESV.	au	Atl-Med	2-4	1.5.2.	4	2	5	1	e	z	S	K
Rosa tomentosa SM.	au	Eu	1-5	1.5.	3	2-3	4	1	e	z	G	K
Rosa villosa L. var. *sancti-andreae* (DEG. et TRTM.)SOÓ	au? ne?	?	?	?	?	?	?	?	e	z	G	U

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Rubus caesius L.	au	EuA	1-5	1.1., 1.2., 1.3.,	3	3-5	0	5	e	z	DT	TZ
Rubus canescens DC.	au	CEu-Med	2-4	1.5.	4	2	3-4	2-3	e	z	DT	TZ
Rubus fruticosus L. agg.	au	Atl-CEu	3-4	1.3., 6.4., 6.5.	2-3	2-3	2-4	2-4	e, ap	z	DT	TZ
Rubus idaeus L.	au	Circ	3-5	1.3.1.2., 6.4., 6.5.	2	3	0	4	e	z	DT	TZ
Rubus saxatilis L.	au	EuA	4-5	1.3.1.2.b.c.	2	3	4	2	e	z	S	K
Ruscus aculeatus L.	au	Atl-Med	1-4	1.3.1.3., 1.5.1.2.	4-5	3	4	2-3	e	z	G	K
Ruscus hypoglossum L.	au	Med	2-4	1.3.1.3., 1.5.1.2.	4-5	3	4	2-3	e	z	S	K
Salix alba L.	au	EuA-Med	1	1.1.1.3., 1.3.1.1.a.	3	4	4	3-4	e (an)	a, h	C	K
Salix aurita L.	au	Eu	1-5	1.2.2., 1.4., 3.	2	3-4	1-2	2	e (an)	a	S	E
Salix caprea L.	au	EuA	1-5	1., 6.5.	2-3	3	3	0	e (an)	a	DT	TZ
Salix cinerea L.	au	EuA	1-3	1.2. (1.2.2.1.), 1.3.1.1.	2-3	4	2-3	2	e (an)	a	C	E

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Salix elaeagnos SCOP.	au	CEu-Med	1-5	1.1.1.1.	3	4-5	4-5	2	e (an)	a, h	C	K
Salix fragilis L.	au	EuA	1-3	1.1.1.3., 1.3.1.1.	3	4	2-3	3	e (an)	a, h	G	K
Salix nigricans SM.	au†	Bor-CEu	1-6	1.2.1.1.	2	4-5	2-3	1-2	e (an)	a	S	U
Salix pentandra L.	au	EuA-Bor	1-6	1.2. (1.2.2.1.)	2	3-4	2-3	2	e (an)	a	S	K
Salix purpurea L.	au	EuA-Med	1-4	1.1. (1.1.1.2.)	3	4-5	4	3	e (an)	a, h	C	E
Salix rosmarinifolia L.	au	Cont	1-3	4., 5.1.	2	3-4	4	2	e (an)	a	C	K
Salix triandra L.	au	EuA	1-4	1.1.1.2.	3	4-5	4	3	e (an)	a, h	C	K
Salix viminalis L.	au	EuA	1-4	1.1.1.2.	2-3	4-5	4	3	e (an)	a, h	G	E
Sambucus nigra L.	au	Eu	1-5	0. (6.5.)	3	3	3-4	4-5	e	z	DT	GY
Sambucus racemosa L.	au	CEu-Med	4-5	1.3.1.2., 6.5.	2-3	3	3	4	e	z	G	K
Sarothamnus scoparius (L.) WIMMER	au, ne	Atl-CEu	2-4	1.4.	3	2	1-2	1-2	e	z	AC	K

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Sorbus aria (L.) CRANTZ	au	CEu	3-5	1.3.1.2.B.c., 2.3.1.1.	3	2-3	4	2	e	z	G	K
Sorbus aucuparia L.	au	Eu-Bor	4-5	1.3.1.2., 1.4., 2.3.	2-3	3	2-3	2	e	z	G	K
Sorbus austriaca (G. BECK) HEDL. subsp. *hazslinszkyana* SOÓ	au	Carp	4	1.5.2.2.	3	2-3	4	2	e	z	G	U
Sorbus domestica L.	au, ar	Atl-Med	2-3	1.5.	4	2-3	4	2	e	z	S	K
Sorbus graeca (SPACH) KOTSCHY	au	Med	2-4	1.5.1.1.	4	2-3	4	2	e	z	S	K
Sorbus torminalis (L.) CRANTZ	au	CEu-Med	2-3	1.3., 1.4., 1.5.	4	3	4	2-3	e	z	G	K
Sorbus aria x *S. torminalis*[4]	au	Pann	2-3	1.5.1.1.	4	2-3	4	2	ap	z	G	U
Spiraea crenata L.	au†	Cont	1-2	1.5.2.2.	3-4	2	3-4	2-3	e	z	C	K
Spiraea media FR. SCHMIDT	au	Cont	4	1.5.2.2.	3	1-2	3-4	2-3	e	z	C	E
Spiraea salicifolia L.	au	EuA	2-4	1.2.	2	4	2-3	4	e	z	S	K
Staphylea pinnata L.	au	CEu-Balc	2-4	1.3., 1.4., 1.5.	3-4	3	4	2-3	e	z	S	K

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Syringa vulgaris L.	au	Adv	2-3	1.5.	4	2	4	1-2	e	z	AC	G
Taxus baccata L.	au	Atl-Med	4-5	1.3.1.2.b., 1.5.1.1.	2	3	4	2	an	z	S	U
Tilia cordata MILLER	au	Eu	1-3	1.3. (1.3.1.2.d.)	3	2-3	2-4	3	e	a	G	K
Tilia platyphyllos SCOP.	au	CEu-Balc	3-4	1.3. (1.3.1.2.c.)	3	2-3	3-4	3-4	e	a	C	K
Tilia tomentosa MOENCH	au	Pann-Balc	1-2	1.3.1.3., 1.5.1.	4	2-3	4	2	e	a	C	K
Ulmus campestris agg.												
Ulmus minor MILLER	au	CEu-Med	1-3	1.3.1.1.a.	3	3-4	4	3-4	an	a	G	K
Ulmus procera SALISB.	au	Atl-CEu	2-3	1.5.2	3-4	2-3	4	2	an	a	G	K
Ulmus glabra HUDSON	au	Eu	4-5	1.3. (1.3.1.2.c.)	2	3-4	3-4	3-4	an	a	G	K
Ulmus laevis PALLAS	au	Cont	1-2	1.1.1.3., 1.3.1.1.a.	3	3-4	4	3-4	an	a	S	K
Vaccinum myrtillus L.	au	EuA	3-6	1.4., 2.3.	1	2-3	1-2	2	e	z	S	K

Taxon	Indigenity	Arealtype	Regionality	Cenotaxonomical groups	Ecological indicator values				Kind of pollination	Kind of fruit- and seed spreading	SBT	NCR
					T	W	R	N				
Vaccinum oxycoccos L.	au	Circ	1-5	3.	1	4-5	1	1	e	z	S	U
Vaccinum vitis-idaea L.	au	Circ	3-6	1.4.	1	2-3	1-2	2	e	z	S	K
Viburnum lantana L.	au	Med	2-3	1.5.	4	2	4	2	e	z	G	K
Viburnum opulus L.	au	EuA	1-4	1.1.1.3., 1.2., 1.3.1.1.	3	3-4	3-4	2-3	e	z	G	K
Viscum album L.	au	EuA	1-4		-	-	-	-	e	z	G	TZ
subsp. *album*	au			1.								
subsp. *austriacum* (WIESB.) VOLLM.	au			2.1., 2.2.								
subsp. *abietis* (WIESB.) ABROM.	au			2.3.								
Vitis riparia MICHX.	ep	Adv	1	1.1.1.3.	3-4	4	4	3	e	z	A	A
Vitis rupestris SCHEELE	ep	Adv	1-3	1.1.1.3., 1.5.3.	4	4	4	3	e	z	A	A
Vitis sylvestris C. C. GMELIN	au	Pont-Med	1-3	1.1., 1.3.1.1.a.b.	4-5	4	4	3	e	z	S	K

Notes:

1) incl. subsp. *hungarica* (KÁRP.) SOÓ
2) incl. *C.* x *matrensis* DOMOKOS
3) incl. *C. curvisepala* LINDMAN
4) agamospecies between *Sorbus aria* agg. x *S. torminalis*: *S. adamii* KÁRP., *S. andrenszkyana* KÁRP., *S. bakonyensis* (JÁV.) KÁRP., *S. balatonica* KÁRP., *S. barthae* KÁRP., *S. borosiana* KÁRP., *S. decipientiformis* KÁRP., *S. degenii* JÁV., *S. eugenii-kelleri* KÁRP., *S. gayeriana* KÁRP., *S. gerecseensis* BOROS et KÁRP., *S. karpatii* BOROS, *S. latissima* KÁRP., *S. pseudobakonyensis* KÁRP., *S. pseudolatifolia* BOROS, *S. pseudo-semiincisa* BOROS, *S. pseudovertesensis* BOROS, *S. redliana* KÁRP., *S. semiincisa* BORB., *S. simonkaiana* KÁRP., *S. vertesensis* BOROS

Author:

DÉNES BARTHA
University of West Hungary
Faculty of Forestry
Department of Botany
H-9401 Sopron, Bajcsy-Zs. u. 4.
Hungary

https://doi.org/10.64610/tilia.1999.07k.ksz.04

Tilia	Vol. 7. Suppl. (1999)	69-80.

Threatened dendrotaxa of Hungary

DÉNES BARTHA

Introduction

Red Lists and Red Data Books have been compiled throughout the World either for different areas or taxonomic groups since the mid-sixties. The purpose of these documents is to give an account of the level of threat as well as to draw the conservationists' attention to the endangered species. The Red Book of the Hungarian Flora and Fauna was published in 1989 (RAKONCZAY ed., 1989) and the endangered tree and shrub species (BARTHA, 1991, 1992) were also issued in a separate book.
The threat categories applied in these books were based on the international recommendations, but also certain national characteristics were respected. In 1994, with the aim to standardize the categories, these were revised by the World Conservation Union Species Survival Commission (IUCN, 1994) and the criteria were completed with quantitative terms. On the basis of the new categories two global scale lists were compiled: The Red List of Threatened Plants (WALTERS & GILLETT, 1998) and The World List of Threatened Trees (OLDFIELD et al., 1998). The review of the threat categories and the criteria has been completed (IUCN/SCC Criteria Review Working Group, 1999) and the recommendation for their adaptation at regional and national level has been prepared (GÄRDENFORS et al., 1999) recently. The present paper was drafted with the consideration of the new review. As the extinction of the species is regarded as a stochastic probability process, in fact, classification into the categories corresponds to an estimation of the extinction risk. The threat category shows the probability of the extinction of the species in the given area.

Material and Methods

The applied threat categories (IUCN, 1994 modified by IUCN/SCC Criteria Review Working Group, 1999) are as it follows:

Extinct (EX): A taxon is Extinct when there is no reasonable doubt that the last individual has died.

Regionally Extinct (RE): A taxon is Regionally Extinct when there is no reasonable doubt that the last individual potentially capable of reproduction within the region has died or disappeared from the region.

Extinct in the Wild (EW): A taxon is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalised population (or populations) well outside the past range. A taxon is presumed Extinct in the Wild when exhaustive surveys known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.

Critically endangered (CR): A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild in the immediate future.

Endangered (EN): A taxon is Endangered when it is not Critically Endangered but is facing a very high risk of extinction in the wild in the near future.

Vulnerable (VU): A taxon is Vulnerable when it is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium-term future.

Lower Risk (LR): A taxon is Lower Risk when it has been evaluated, does not satisfy the criteria for any of the categories Critically Endangered, Endangered or Vulnerable. Taxa included in the Lower Risk category can be separated into three subcategories:

- **Conservation Dependent** (CD): Taxa which are the focus of a continuing taxon-specific or habitat-specific conservation programme targeted towards the taxon in question, the cessation of which would result in the taxon qualifying for one of the threatened categories above within a period of five years.

- **Near Threatened** (NT): Taxa which do not qualify for Conservation Dependent, but which are close to qualifying for Vulnerable.

- **Least Concern** (LC): Taxa which do not qualify for Conservation Dependent or Near Threatened.

Data Deficient (DD): A taxon is when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution is lacking.

Not Evaluated (NE): A taxon is Not Evaluated when it is has not yet been assessed against the criteria.

The recommendation of the IUCN/SCC Criteria Review Working Group (1999) suggests cancelling the category 'Conservation Dependent', simultaneously, after GÄRDENFORS et al. (1999), the categories have been completed with the category 'Regionally Extinct'.
To classify the species into these above mentioned threatened categories (CD, EN, VU) quantified criteria (ranging A to E) are used. Each taxon must be assessed by all the criteria, but it's enough to satisfy a single criterion to classify a taxon to any of the categories. The applied criteria are the following (IUCN, 1994):

A) Population reduction in the form of either of the following:

1. An observed, estimated, inferred or suspected reduction of at least 80% (CR), 50% (EN), 20% (VU) over the last 10 years or three generations, whichever is the longer, based on (and specifying) any of the following:
   (a) direct observation
   (b) an index of abundance appropriate for the taxon
   (c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
   (d) actual or potential levels of exploitation
   (e) the effects of introduced taxa, hybridisation, pathogens, pollutants, competitors or parasites.

2. A reduction of at least 80% (CR), 50% (EN), 20% (VU) projected or suspected to be met within the next ten years or three generations, whichever is the longer, based on (and specifying) any of (b), (c), (d) or (e) above.

B) Extent of occurrence estimated to be less than 100 km^2 (CR), 5000 km^2 (EN), 20000 km^2 (VU) or area of occupancy estimated to be less than 10 km^2 (CR), 500 km^2 (EN), 2000 km^2 (VU) and estimates indicating any two of the following:

1. Severely fragmented or known to exist at only a single location.

2. Continuing decline, observed, inferred or projected, in any of the following:
   (a) extent of occurrence
   (b) area of occupancy
   (c) area, extent and/or quality of habitat
   (d) number of locations or subpopulations
   (e) number of mature individuals.

3. Extreme fluctuations in any of the following:
   (a) extent of occurrence
   (b) area of occupancy
   (c) number of locations or subpopulations
   (d) number of mature individuals.

C. Population estimated to number less than 250 (CR), 2500 (EN), 10000 (VU) mature individuals and either:

1. An estimated continuing decline of at least 25% (CR), 20% (EN), 10% (VU) within 3 years or one generation, whichever is longer or

2. A continuing decline, observed, projected, or inferred, in numbers of mature individuals and population structure in the form of either:
   (a) severely fragmented (i.e. no subpopulation estimated to contain more than 50 (CR), 250 (EN), 1000 (VU) mature individuals)
   (b) all individuals are in a single subpopulation.

D. Population estimated to number less than 50 (CR), 250 (EN), 1000 (VU) mature individuals.

E. Quantitative analysis showing the probability of extinction in the wild is at least 50% within 10 years or 3 generations (CR), 20% within 20 years or 5 generations (EN), 10% within 100 years (VU) whichever is the longer.

Regional and national Red Lists must contain the ratio of the regional (national) population, which means the total number of individuals of the taxon living in a given place – in this case – in Hungary, to the global population, which means the total number of individuals of the taxon living in the wild. After the recommendations of GÄRDENFORS et al., (1999) on the basis of the ratio of the regional (national) population to the global population five categories are created:

I.	< 2,5%
II.	2,6 – 10,0 %
III.	10,1 – 25,0%
IV.	25,1 – 50,1%
V.	> 50,1%

In the Red List of the Hungarian tree and shrub species the following features are indicated (See Appendix):

- The threatened categories applied at national level referring to Hungary (**TC**)
- Relevant ratio of the national (regional) population to the global population (**nP/gP**)
- Sources of danger, endangering factors.

Sources of danger, endangering factors:

A. Factors endangering the habitats
I. Changes in the cultivation methods
1. Mining, raw material exploitation
2. Grassland ploughing
3. Orchard, vineyard planting
4. Afforestation
5. Land parcelling, road construction

II. Changes in the habitat conditions
6. Drainage, turf-cutting
7. Clear cutting, rough forest management methods
8. Intensive grassland management, over sewing
9. Karstwater, groundwater lifting
10. Spontaneous forestation, over scrubbing
11. Forestation with alien species
12. Invasion of alien weeds
13. Overpopulated game-stock

III. Mechanical damage to the habitat and vegetation
14. Intensive tourism
15. Military activity
16. Trampling caused by motocross, hang-glider or mountain bike

B. Factors endangering the plants directly
17. Flower picking, plant collecting, trade
18. Introgressive hybridization, gene erosion
19. Reproduction, regeneration problems
20. Burning, fire
21. Shrub clearing

References

BARTHA, D. (1991): Vörös Lista. Magyarország veszélyeztetett és védett fa- és cserjefajai. [Red List. Threatened tree and shrub species in Hungary.] – Savaria Kiadó, Szombathely, pp. 24.

BARTHA, D. (1992): Die ausgestorbenen und gefährdeten Baum- und Straucharten in Ungarn. – Folia Dendrologica **19**: 19-35.

GÄRDENFORS, U., RODRÍGUEZ, J.P., HILTON-TAYLOR, C., HYSLOP, C., MACE, G., MOLUR, S., POSS, S. (1999): Draft Guidelines for the Application of IUCN Red List Criteria at National and Regional Levels. – Species **31-32**: 58-70.

IUCN (1994): IUCN Red List Categories. – IUCN Species Survival Commission, Gland, Switzerland, pp. 21.

IUCN/SCC Criteria Review Working Group (1999): IUCN Red List Criteria Review Provisional Report: Draft of the Proposed Changes and Recommendations. – Species **31-32**: 43-57.

OLDFIELD, S., LUSTY, C., MACKINVEN, A. (1998): The World List of Threatened Trees. – World Conservation Press, Cambridge, pp. 650.

RAKONCZAY, Z. (ed.) (1989): Vörös Könyv. A Magyarországon kipusztult és veszélyeztetett növény- és állatfajok. [Red Book. Extincted and threatened plant and animal species in Hungary.] – Akadémiai Kiadó, Budapest, pp. 360.

WALTERS, K. S., GILLETT, H. J. (eds.) (1998): 1997 Red List of Threatened Plants. – The World Conservation Union, Gland and Cambridge, pp. 862.

Author:

DÉNES BARTHA
University of West Hungary
Faculty of Forestry
Department of Botany
H-9401 Sopron, Bajcsy-Zs. u. 4.
Hungary

Appendix

Table 1. – Pink List: Tree and shrub taxa of Hungary having high probability to become endangered in near future

Alnus incana (L.) MÖNCH	**NT**
Calluna vulgaris (L.) HULL.	**LC**
Castanea sativa MILL.	**NT**
Cerasus fruticosa PALL.	**LC**
Cerasus mahaleb (L.) MILL.	**LC**
Colutea arborescens L.	**LC**
Lonicera xylosteum L.	**LC**
Padus avium (L.) MILLER	**LC**
Ribes uva-crispa L.	**LC**

Rosa agrestis SAVI	**NT**
Rosa caesia SM. in SOW.	**NT**
Sambucus racemosa L.	**NT**
Ulmus glabra HUDS.	**NT**
Ulmus minor MILL.	**NT**
Ulmus procera SALISB.	**LC**
Vaccinium myrtillus L.	**LC**
Viscum album L. subsp. *abietis* ABROM. subsp. *austriacum* VOLLM.	 **NT** **LC**

Table 2. – Threatened tree and shrub species in Hungary, and their endangering factors

Taxa	TC	nP/gP	Endangering factors
GYMNOSPERMAE			
Ephedra distachya L.	**EN**	I	1-4, 8, 10, 12, 15, 17, 19, 20
Taxus baccata L.	**EN**	II	11, 13, 17, 19
ANGIOSPERMAE			
Acer acuminatilobum J. PAPP	**CR**	V	19
Alnus viridis (CHAIX in VILL.) DC.	**VU**	I	1, 7, 10, 15, 21
Amelanchier ovalis MEDIK.	**VU**	I	1, 10, 11, 13, 15, 20
Amygdalus nana L.	**EN**	I	1, 10, 11, 13, 15, 17, 20, 21
Andromeda polifolia L.	**RE**		(6)
Betula pubescens EHRH.	**EN**	I	4, 6, 7, 9, 10, 18
Carpinus orientalis MILL.	**EN**	I	13, 19
Clematis alpina (L.) MILL.	**VU**	II	7, 11, 17, 21
Cornus sanguinea L. subsp. *hungarica* (KÁRP.) SOÓ	**DD**	?	?
Coronilla emerus L.	**VU**	I	1, 7, 13, 21
Cotoneaster integerrimus MEDIK.	**VU**	I	7, 11, 13
Cotoneaster niger (WAHLBG.) FRIES	**VU**	I	7, 11, 13
Cotoneaster tomentosus (AIT.) LINDLEY	**VU**	II	7, 11, 13
Crataegus monogyna JACQ. subsp. *curvisepala* (LINDM.) SOÓ	**DD**	?	?
Crataegus nigra W. et K.	**EN**	II	7, 11, 13, 18, 21

Taxa	TC	nP/gP	Endangering factors
Daphne cneorum L. subsp. *cneorum* subsp. *arbusculoides* (TUZSON) SOÓ	 **VU** **VU**	 II V	7, 10, 11, 12, 13, 14, 16, 17, 20
Daphne laureola L.	**VU**	I	1, 7, 11, 13
Daphne mezereum L.	**VU**	I	7, 11, 17
Hippophaë rhamnoides L.	**CR**	I	1, 6, 10, 11, 15
Lonicera caprifolium L.	**VU**	I	7, 11, 14, 17, 21
Lonicera nigra L.	**CR**	I	1, 7, 13
Malus dasyphylla BORKH.	**VU**	?	7, 11, 18
Myricaria germanica (L.) DESV.	**CR**	I	1, 6, 10
Ostrya carpinifolia SCOP.	**RE**		(3, 5, 7) ?
Populus nigra L.	**EN**	I	6, 7, 11, 18
Pyrus magyarica TERPÓ	**CR**	V	5, 18, 19
Pyrus nivalis JACQ.	**EN**	I	3, 5, 18, 19, 20
Pyrus austriaca KERN.	**EN**	V?	3, 5, 19
Rhamnus saxatilis JACQ.	**EN**	I	4, 7, 10, 11, 18, 21
Ribes alpinum L.	**EN**	I	1, 7, 13
Ribes nigrum L.	**EN**	I	6, 11
Ribes petraeum WULF. in JACQ.	**RE**		(7)
Ribes rubrum L. agg.	**VU**	I	7, 11, 12
Rosa arvensis HUDS.	**VU**	I	4, 11, 12, 21

Taxa	TC	nP/gP	Endangering factors
Rosa gizellae BORB.	**VU**	I	21
Rosa glauca POURRET	**DD**	I	21
Rosa hungarica (BORB.) DEGEN	**VU**	II	2, 7, 11, 21
Rosa inodora FR. em. KLÁST.	**VU**	I	7, 11, 21
Rosa kmetiana BORB.	**CR**	I	21
Rosa livescens BESS.	**VU**	I	2, 3, 4, 5, 10, 16, 21
Rosa pendulina L.	**VU**	I	7, 11, 21
Rosa polyacantha (BORB.) DEGEN	**VU**	I	2, 7, 11, 21
Rosa scabriuscula SM. em. H. BR.	**CR**	I	7, 21
Rosa sherardi DAVIES	**CR**	I	7, 11, 21
Rosa stylosa DESV.	**RE?**	I	
Rosa szaboi (BORB.) FACSAR	**EN**	I	7, 21
Rosa tomentosa SM.	**VU**	I	7, 11, 21
Rubus senticosus KOEHLER ex W. et GR.	**DD**	?	?
Ruscus aculeatus L.	**VU**	I	7, 11, 17
Ruscus hypoglossum L.	**VU**	I	7, 11, 13, 17
Salix aurita L.	**VU**	I	6, 7, 9, 18, 21
Salix elaeagnos SCOP.	**EN**	I	1, 6, 21
Salix nigricans SM.	**EN**	I	5, 6, 10
Salix pentandra L.	**EN**	I	6, 9, 11, 21

Taxa	TC	nP/gP	Endangering factors
Sorbus aria (L.) CR.	**VU**	I	1, 7, 11, 18
Sorbus domestica L.	**VU**	II	3, 5, 7, 11
Sorbus graeca (SPACH) LODD.	**VU**	II	1, 7, 11, 18
Sorbus hazslinszkyana (SOÓ) MÁJOVSKÝ	**CR**	I	7, 18, 19
Transition between sections *Aria*			
Sorbus buekkensis SOÓ em. KÁRP.	**VU**	V	7, 11, 18
Sorbus danubialis (JÁV.) KÁRP.	**VU**	V	7, 11, 18
Sorbus javorkae (SOÓ) KÁRP.	**VU**	V	7, 11, 18
Sorbus pannonica KÁRP.	**VU**	V	7, 11, 18
Sorbus sooi (MÁTHÉ) KÁRP.	**VU**	V	7, 11, 18
***Sorbus aria* section x *S. torminalis* microspecies**			
Sorbus adami KÁRP.	**EN**	V	7, 11
Sorbus andreanszkyana KÁRP.	**DD**	V	7, 11
Sorbus bakonyensis JÁV. em. KÁRP.	**EN**	V	7, 11
Sorbus balatonica KÁRP.	**VU**	V	7, 11
Sorbus barthae KÁRP.	**EN**	V	7, 11
Sorbus borosiana KÁRP.	**CR**	V	7, 11, 13, 19
Sorbus decipientiformis KÁRP.	**DD**	V	7, 11
Sorbus degenii JÁV.	**VU**	V	7, 11
Sorbus eugenii-kelleri KÁRP.	**VU**	V	7, 11

Taxa	TC	nP/gP	Endangering factors
Sorbus gáyeriana KÁRP.	**DD**	V	7, 11
Sorbus gerecseensis BOROS et KÁRP.	**EN**	V	7, 11
Sorbus karpatii BOROS	**VU**	V	7, 11
Sorbus latissima KÁRP.	**EN**	V	7, 11
Sorbus pseudobakonyensis KÁRP.	**VU**	V	7, 11
Sorbus pseudolatifolia BOROS	**VU**	V	7, 11
Sorbus pseudosemiincisa BOROS	**EN**	V	7, 11
Sorbus pseudovertesensis BOROS	**VU**	V	7, 11
Sorbus redliana KÁRP.	**EN**	V	7, 11
Sorbus semiincisa BORB.	**VU**	V	7, 11
Sorbus simonkaiana KÁRP.	**VU**	V	7, 11
Sorbus vertesensis BOROS	**VU**	V	7, 11
Sorbus x *rotundifolia* (BECHST.) HEDL.	**CR**	I	7, 11
Spiraea crenata L.	**RE**		(3, 4, 5, 11, 21)
Spiraea media FR. SCHM.	**VU**	I	10, 11, 14, 13, 17, 21
Spiraea salicifolia L.	**VU**	I	6, 7, 13, 21
Vaccinium oxycoccos L.	**EN**	I	6
Vaccinium vitis-idaea L.	**VU**	I	1, 7, 14
Vitis sylvestris C. C. GMEL.	**EN**	I	6, 7, 11, 19, 21

https://doi.org/10.64610/tilia.1999.07k.ksz.05

Tilia	Vol. 7. Suppl. (1999)	81-90.

Adventive dendrotaxa of Hungary

DÉNES BARTHA

Introduction

Present study presents the adventive tree and shrub species occurring in Hungary. Those taxa are considered 'adventive', which are non-indigenous, that is they don't occur in a given area naturally. Escaped cultivated plants (*hemerophytes* = *ergasiophytes*) and introduced species (*xenophytes*) are included in the category 'adventive'. There is no unintentionally introduced tree or shrub species in Hungary. Species escaped can be classified into four categories on the basis of the occupied area, the speed of the sub-spontaneous expansion, the number of individuals and the rate of growth in numbers of individuals:

1. Very frequently run wild (invasive) taxon inclined to spread in a very aggressive manner. The taxon is likely to occur en masse at several spots, and it can invade large areas within a short period of time.

2. Frequently run wild taxon occurring at several spots. However, it is not able to reproduce en masse and spread so rapidly (invasion) as the previous category.

3. Sporadically run wild taxon occurring in a limited number. It is not able for mass reproduction.

4. Very rarely run wild taxon (of transitional appearance in several instances) occurring at one or few spots.

Following features of each taxon are displayed in the list:

- grades of the adventive quality
- first documented date of the Hungarian occurrence (PRISZTER, 1997)
- generative and vegetative spreading opportunities of the taxa

Abbreviations

Expansion method:

S = by seed or fruit
R = by root sucker or rooting of shoots

Time of establishment in Hungary:

arch = archeophytes (run wild and established before 1800) (after PRISZTER /1997/)

References

BINGGELI, P. (1996): A taxonomic, biogeographical and ecological overview of invasive woody plants. – Journal of Vegetation Science **7:** 121-124.

LOHMEYER, W. & SUKOPP, H. (1992): Agriophyten in der Vegetation Mitteleuropas. – Schriftenreihe Vegetationskunde **25:** 1-185.

BÖCKER, R., GEBHART, H., KONOLD. W. & SCHMIDT–FISCHER, S. (Hrsg.) (1999): Gebietsfremde Pflanzenarten. – Ecomed, Landsberg.

PECH, R. P. (1999): Managing alien species: the Australian experience. In: SANDLUND, O. T., SCHEI, P. J. & AUSLAG V. (eds.): Invasive species and biodiversity managenent. – Cluver Academic Publishers, Dordrecht / Boston / London, p. 377-386.

PRISZTER, SZ. (1997): A magyar adventívflóra kutatatása. [Forschung der Ungarischer adventiven Flora.] – Botanikai Közlemények **84**: 25-32.

WEBER, E. (1999): Gebietsfremde Arten der Schweizer Flora – Ausmass und Bedeutung. – Bauhinia **13:** 1-10.

Author:

DÉNES BARTHA
University of West Hungary
Faculty of Forestry
Department of Botany
H-9401 Sopron, Bajcsy-Zs. u. 4.
Hungary

Appendix

Tab. 1. – Very frequently, frequently and sporadically run wild dendrotaxa of Hungary

Taxon	Grades of the adventive quality	First documented date of the Hungarian occurrence	Kind of the generative and vegetative spreading
Abies alba MILL.	**3**		S
Acer negundo L.	**1**	1872	S
Aesculus hippocastanum L.	**3**		S
Ailanthus altissima (MILL.) SWINGLE	**1**	1841	S, R
Amorpha fruticosa L.	**1**	1907	S
Amygdalus communis L.[1]	**3**		S
Armeniaca vulgaris LAM.	**3**		S
Buddleia davidii FRANCH.	**3**	1960	S
Celtis occidentalis L.	**2**	1870	S
Cerasus vulgaris MILL. subsp. *acida* (DUM.) DOSTÁL	**2**		S, R
Cydonia oblongoa MILL.	**3**		S, R
Elaeagnus angustifolia L.	**3**	1900	S
Fraxinus pennsylvanica MARSH.	**1**	1950	S
*Hedera hibernica (*KIRCHNER) BEAN	**3**		S
Juglans regia L.	**3**		S

Taxon	Grades of the adventive quality	First documented date of the Hungarian occurrence	Kind of the generative and vegetative spreading
Koelreuteria paniculata LAXM.	**3**	1940	S
Laburnum anagyroides MEDIK.	**3**		S
Larix decidua MILL.	**3**		S
Lycium barbarum L.	**2**	arch	S, R
Mahonia aquifolium (PURSH) NUTT.[2]	**2**	1915	S
Malus domestica BORKH.	**2**		S
Mespilus germanica L.	**3**		S
Morus alba L.	**2**	arch	S
Padus serotina (EHRH.) BORKH.	**1**	1949	S
Parthenocissus inserta FRITSCH[3]	**2**	arch	S, R
Persica vulgaris MILL.	**3**	arch	S
Picea abies (L.) KARST.	**3**		S
Pinus nigra ARN.	**3**		S
Populus x *euramericana* GUINIER	**3**	1938	S
Prunus cerasifera EHRH.[4]	**2**	arch	S
Prunus domestica L.	**3**	arch	S, R

Taxon	Grades of the adventive quality	First documented date of the Hungarian occurrence	Kind of the generative and vegetative spreading
Ptelea trifoliata L.	**2**	1904	S, R
Pyracantha coccinea ROEM.	**3**		S
Pyrus communis L.[5]	**3**		S
Quercus rubra L.	**3**		S
Ribes aureum PURSH	**2**	1872	S, R
Robinia pseudoacacia L.	**2**	1750-60	(S), R
Sarothamnus scoparius (L.) WIMM.	**2**		S
Syringa vulgaris L.	**3**	arch	(S), R
Thuja orientalis L.	**3**	1942	S
Vitis riparia MICHX.	**1**	1939	S
Vitis rupestris SCHEELE	**3**	1939	S
Vitis vinifera L.[6]	**3**		S

Notes:
1 – escaped within the region of cultivation
2 – mainly hybrids formed with *M. repens* (LINDL.) G. DON and *M. pinnata* (LAG.) FEDDE
3 – also hybrids created with *P. quinquaefolia* (L.) PLANCH.
4 – incl. *P. divaricata* LED.
5 – = *P. amphigena* DOM.
6 – in wine-districts

Tab. 2. – Very rarely run wilde dendrotaxa of Hungary

Taxon	Grades of the adventive quality
Abies nordmanniana (STEV.) SPACH.	4
Acer saccharinum L.	4
Amelanchier canadensis (L.) MEDIK.	4
Aucuba japonica THUNB.	4
Berberis julianae SCHNEID.	4
Berberis thunbergii DC.	4
Broussonetia papyrifera (L.) L'HÉRIT.	4
Buxus sempervirens L.	4
Campsis radicans (L.) SEEMANN	4
Caragana arborescens LAM.	4
Catalpa bignonioides WALTER	4
Celastrus scandens L.	4
Celtis australis L.	4
Cercis siliquastrum L.	4
Chamaecyparis lawsoniana PARL.	4
Clematis viticella L.	4
Colutea orientalis MILL.	4
Cornus alba L.	4
Corylus colurna L.	4

Taxon	Grades of the adventive quality
Corylus maxima MILL.	4
Cotoneaster divaricatus REHD. ex WILS.	4
Cotoneaster horizontalis DCNE.	4
Crataegus flabellata (BOSC) K. KOCH	4
Deutzia scabra THUNB.	4
Diospyros lotus L.	4
Elaeagnus commutata BERNH.	4
Euodia hupehensis DODE	4
Evodia daniellii (BENN.) HEMSL.	4
Ficus carica L.	4
Fraxinus americana L.	4
Ginkgo biloba L.	4
Gleditsia triacanthos L.	4
Gymnocladus dioicus L.	4
Halimodendron halodendron (L.) VOSS	4
Hibiscus syriacus L.	4
Ilex aquifolium L.	4
Jasminum fruticans L.	4
Juglans nigra L.	4
Juniperus chinensis L.	4

Taxon	Grades of the adventive quality
Juniperus virginiana L.	4
Kerria japonica (L.) DC.	4
Laurocerasus officinalis ROEM.	4
Ligustrum ovalifolium HASSKARL	4
Lonicera pileata OLIV.	4
Lonicera tatarica L.	4
Lonicera x *purpusii* REHD.	4
Lycium chinense MILL.	4
Maclura pomifera (RAF.) SCHNEID.	4
Paliurus spina-christi MILL.	4
Parthenocissus tricuspidata PLANCH.	4
Paulownia tomentosa (THUNB.) S. et Z.	4
Periploca graeca L.	4
Philadelphus coronarius L.	4
Physocarpus opulifolius (L.) MAXIM.	4
Platanus x *hispanica* MUENCHH.	4
Poncirus trifoliata (L.) RAF.	4
Populus simonii CARR.	4
Pseudotsuga menziesii (MIRB.) FRANCO	4
Reynoutria aubertii (HENRY) MOLDENKE	4

Taxon	Grades of the adventive quality
Rhodotypus scandens (THUNB.) MAK.	4
Rhus hirta (L.) SUDWORTH	4
Rhus toxicodendron L.	4
Rosa majalis HERRM.	4
Rosa multiflora THUNB.	4
Rosa rugosa THUNB.	4
Rubus phoenicolasius MAXIM.	4
Smilax aspera L.	4
Sophora japonica L.	4
Sorbaria sorbifolia (L.) A. BR.	4
Sorbus x *intermedia* (EHRH.) PERS.	4
Symphoricarpus albus BLAKE	4
Tamarix tetrandra PALL.	4
Thuja plicata D. DON	4
Ulmus pumila L.	4
Viburnum rhytidophyllum HEMSL.	4
Vitis labrusca L.	4
Wisteria sinensis (SIMS.) SWEET	4
Yucca filamentosa L.	4

Tab. 3. – Tree and shrub taxa whose indigenous nature is still under dispute

Abies alba MILL.
Castanea sativa MILL.
Juglans regia L.*
Laburnum anagyroides MEDIK.
Larix decidua MILL.*
Picea abies (L.) KARST.
Pinus nigra ARN.*
Quercus frainetto TEN.*
Ribes rubrum L. agg.
Sarothamnus scoparius WIMM.

* – to all probability non-indigenous in Hungary

Tab. 4. – Taxa which are indigenous in Hungary, but, as run wild taxa, they also occur outside their natural habitat

Castanea sativa MILL.
Cerasus avium (L.) MOENCH
Cerasus mahaleb (L.) MILL.
Cotinus coggygria SCOP.
Fraxinus ornus L.
Hippophaë rhamnoides L.
Lonicera caprifolium L.
Pinus sylvestris L.
Quercus cerris L.
Ribes nigrum L.
Ribes rubrum L. *agg.*
Ribes uva-crispa L.
Sorbus aucuparia L.
Sorbus domestica L.
Taxus baccata L.
Tilia tomentosa MÖNCH

CONTENTS / INHALT