

Merlewood Research and Development Paper
Number 40

A CLASSIFIED BIBLIOGRAPHY OF THE ECOLOGY AND
TAXONOMY OF THE GENUS *ULMUS* FROM 1960 to 1972

J. Beckett and J. N. R. Jeffers

R & D 73/40.

Harvard Research and Development Center, has produced
for the dissemination of information within the Defense
Community. They include a number of technical
publications, reports, and other information
expressed in Harvard Research and Development Center
and those of the military, which are available to the
official members of the Defense Community.

Introduction

This paper gives a classified bibliography of the ecology and taxonomy of the genus *Ulmus* from 1960 to 1972. The bibliography has been compiled by a search of Forestry Abstracts and Biological Abstracts, and is believed to be reasonably complete.

The paper is in two parts:-

1. A classification of the various papers by the Oxford Decimal System, giving the titles of the papers and the authors.
2. A list of papers, including authors, titles, original place of publication, and reference number in Forestry Abstracts and/or Biological Abstracts.

SECRET

The following information was obtained from a review of the files of the Central Intelligence Agency, Department of Defense, and the Department of State, and is being furnished to you for your information.

1. [Illegible]

The following information was obtained from a review of the files of the Central Intelligence Agency, Department of Defense, and the Department of State, and is being furnished to you for your information.

The following information was obtained from a review of the files of the Central Intelligence Agency, Department of Defense, and the Department of State, and is being furnished to you for your information.

CLASSIFICATION OF LISTED PAPERS BY OXFORD DECIMAL SYSTEM

1. FACTORS OF THE ENVIRONMENT. BIOLOGY

11. Site factors: climate, situation, soil, hydrology
(water conservation, soil conservation and erosion)

114. Soil. Soil science

114.52 Soil fertility

Investigation of the relationship between soil properties and the growth of Siberian elm trees in the loess plains of Nebraska.

Sanders, D.H. 1967

16. General botany

160. Plant chemistry

160.2 Chemical composition

Stability of polyphenolic compounds in drugs from native species of *Ulmus*.

Bednarska, D. 1971

Polyphenols and discolorations in the elm disease investigated by histochemical techniques.

Gagnon, C. 1967

Peroxidase in healthy and diseased elm trees investigated by the benzidine histochemical technique.

Gagnon, C. 1968

The influence of Dutch elm disease and plant water stress on the foliar nutrient content of American and Siberian elm.

Roberts, B.R. &
Jensen, K.F. 1970

Nitrogenous compounds (amino-acids) in the xylem sap of elms with Dutch elm disease (*Ceratocystis ulmi*)

Singh, D. &
Smalley, E.B. 1964

Nitrogenous compounds in the xylary sap of *Ulmaceae* species varying in resistance to Dutch elm disease.

Singh, D. &
Smalley, E.B. 1966

Nitrogenous and carbohydrate compounds in the xylem sap of *Ulmaceae* species varying in resistance to Dutch elm disease.

Singh, D. &
Smalley, E.B. 1969

- Changes in amino-acid and sugar constituents of xylem sap of American elm following inoculation with *Ceratocystis ulmi*.
Singh, D. & Smalley, E.B. 1969
- Nitrogenous compounds in the xylem sap of *Ulmus americana*: seasonal variations in relation to Dutch elm disease susceptibility.
Singh, D. & Smalley, E.B. 1969
- Nitrogenous compounds in the xylem sap of American elms with Dutch elm disease.
Singh, D. & Smalley, E.B. 1969
- Flavonoid distribution in *Ulmus*
Santamour, F.S. 1972
161. Physiology
- 161.1 Circulation of water and gases. Absorption. Exudation. Transpiration
(Moisture consumption and water regime of *U. pumila* var *arborea* on reclaimed solonchak/solonetz in semi-desert conditions)
Abramova, M.M. 1966
- 161.3 Assimilation, reserves, secretion
- Nitrogenous compounds (amino-acids) in the xylem sap of elms with Dutch elm disease (*Ceratocystis ulmi*).
Singh, D. & Smalley, E.B. 1964
- Nitrogenous compounds in the xylary sap of *Ulmaceae* species varying in resistance to Dutch elm disease.
Singh, D. & Smalley, E.B. 1966
- Nitrogenous and carbohydrate compounds in the xylem sap of *Ulmaceae* species varying in relation to Dutch elm disease
Singh, D. & Smalley, E.B. 1969
- Changes in amino-acid and sugar constituents of xylem sap of American elm following inoculation with *Ceratocystis ulmi*.
Singh, D. & Smalley, E.V. 1969
- Nitrogenous compounds in the xylem sap of *Ulmus americana*: seasonal variations in relation to Dutch elm disease susceptibility.
Singh, D. & Smalley, E.B. 1969
- Nitrogenous compounds in the xylem sap of American elms with Dutch elm disease.
Singh, D. & Smalley, E.B. 1969.

- 161.4 Physiology of development, physiology of growth - growth regulators
- Structure, formation and dormancy of terminal buds of elm (*Ulmus rubra* and *U. americana*)
Laing, C.C. 1966
- Relation of early cambial activity in White elm and infection by *Ceratocystis ulmi* (Buis) C. moreau
Pomerleau, R. 1966
164. Morphology
- A quick way to recognise the elms of England
Mitchell, A.F. 1967
- Comparative anatomy of Ulmaceae
Sweitzer, E.M. 1971
- 164.4 Stems, shoots
- (Features of the growth of annual shoots of *Ulmus pumila* var *arborea*)
Erpert, S.D. 1960
- Structure, formation and dormancy of terminal buds of elm (*Ulmus rubra* and *U. americana*)
Laing, C.C. 1966
- Anatomical factors in resistance to Dutch elm disease
McNabb, H.S.
et al. 1970
- 164.5 Leaves
- (Variability of elm (*Ulmus campestris* L.) leaves
Andrearczyk, J. 1971
- Dutch elm disease and botanical variation in English elm
Jeffers, J.N.R. 1972
- (Mortal leaf reactions and their significance in plant taxonomy)
Mrkos, O. 1964
- Petiolar anatomy of some Urticales
Sarabhai, R.P. &
Saxena, A.K. 1961
- (Studies on the morphogenesis of tree leaves. I. The shape of leaves on short shoots of *Ulmus laevis*)
Wieckowska, I. 1970
- 164.6 Flowers and inflorescences
- (Inflorescences of *Ulmus* species: their formation, structure and problems of their evolution)
Grudzinskaya, I.A.
1966
- (Pollen atlas of indigenous trees and shrubs in Quebec: III. Ulmaceae)
Richard, P. 1970

165.5 Natural variation

Multivariate analysis of the English elm population

Jeffers, J.N.R. &
Richens, R.H. 1970

Intraclonal vs intraseedling variation in *Ulmus americana* L. and *U. pumila* L.

Schreiber, L.R. &
Roberts, B.R. 1971

165.6 Selection

Methods for screening and for the rapid selection of elms for resistance to Dutch elm disease (*Ceratocystis ulmi*)

Tchernoff, V. 1966

165.7 Hybrids (taxonomic aspects)

Hybrid elm

Anon, 1970

Artificial hybridization in the genus *Ulmus*.

Britwum, S.P.K. 1961

Hybridization studies in the genus *Ulmus*.

Collins, P.E. 1968

Colchipoidey of *Ulmus pumila* and its possible use in hybridization with *U. americana*

Derman, H. &
Curtis, W. 1966

Hardiness and resistance to *C. ulmi* (Buis) C. moreau of hybrids and clones of European and American elm.

Pomerleau, R. &
Bard, J. 1968

(A provisional survey of Netherlands elms)

Touw, A. 1963

Artificial hybridization and grafting methods with *Ulmus americana*.

Winieski, J.A. 1960

A natural hybrid between American and Siberian elms.

Santamour, F.S. 1970

Natural hybrids between Chinese and Cedar elms from Texas

Santamour, F.S. 1970

Species identification of *Ulmus* pollen
Stockmarr, J. 1970

(On the pollen morphology of the Urticales
from the Romanian flora)

Tarnavschi, I.T.
et al. 1967

165. Phylogeny, evolution. Heredity, genetics and breeding,
variation

165.3 Heredity, genetics and breeding, variation: general

Peroxidase inheritance in Siberian elms.

Feret, P.P. &
Stairs, G.R. 1971

Evidence of ecological isolation between
U. thomasi Sarg. and *U. rubra* Muhl.

Hess, L.W. &
Dunn, D.B. 1967

Genetics and breeding of American elm.

Lester, D. 1969

165.4 Basic methods of breeding. Cytogenetics:
chromosomes and genes

A case of albinism and of presumptive self-
compatibility in *Ulmus* L.

Chase, S.S. 1968

(Microsporogenesis in *Ulmus* species and the
influence of ecological conditions on its
development)

Greguss, L. 1968

Prospects for elm breeding in Wisconsin

Lester, D.T. &
Smalley, E.B. 1968

An attempt to induce polyhaploidy in
American elm

Lester, D.T. 1970

A first step in breeding resistant elms

Wright, J.W. 1968

165.42 Chromosomes by taxonomic groups

(The diagnostic significance of cytological
characters in the taxonomy of certain tree
species (as exemplified by the genus *Ulmus*))

Grudzinskaja, I.A. &
Zahareva, O.I. 1967

New chromosome counts in *Ulmus* and *Platanus*

Santamour, F.S. 1969

168. Histology

Polyphenols and discolorations in the elm disease investigated by histochemical techniques.

Gagnon, C. 1967

Peroxidase in healthy and diseased elm trees investigated by the benzidine histochemical technique.

Gagnon, C. 1968

Histochemical studies on the alteration of lignin and pectic substances in White elm infected with *Ceratocystis ulmi*.

Gagnon, C. 1967

17. Systematic botany175. Angiospermae176.1. Dicotyledoneae

(The elm (*Ulmus* species))

Anon, 1970

(Variability of elm (*Ulmus campestris* L.) leaves)

Andrearczyk, J.
1971

(*Ulmus laevis*, a central European species in the forest of Hez (Oise))

Bournerias, M. &
Frileux, P. 1970

Key to the native trees of Canada

Brayshaw, T.C. 1960

Woodland elms in Wessex

Darrah, G.V. 1968

A modern sylva or a discourse of forest trees: elms

Edlin, H.L. 1965

The genera of *Ulmaceae* in the south-eastern United States

Elias, T.S. 1970

(Taxonomy of central European species-groups of *Ulmus*)

Endtmann, J. 1967

(Elm)

Fontaine, F.J. 1968

(The systematic position of *Ulmus pinnatoramosa*)

Grudzinskaja, I.A.
1962

(The *Ulmaceae* and reasons for distinguishing the *Celtidoideae* as a separate family *Celtidaceae* link)

Grudzinskaja, I.A.
1967

(The diagnostic significance of cytological characters in the taxonomy of certain tree species (as exemplified by the genus *Ulmus*))
 Grudzinskaja, I.A. & Zahareva, O.I. 1967

Evidence of ecological isolation between *Ulmus thomasi* Sarg. and *U. rubra* Muhl.
 Hess, L.W. & Dunn, D.B. 1967

The elm 'Commelin'
 Heybroek, H.M. 1961

(The 'Groeneveld' elm)
 Heybroek, H.M. 1963

(Nomenclature of elms)
 Heybroek, H.M. 1965

(The recognition of elm seedlings)
 Heybroek, H.M. 1966

Dutch elm disease and botanical variation in English elm
 Jeffers, J.N.R. 1972

Multivariate analysis of the English elm population
 Jeffers, J.N.R. & Richens, R.H. 1970

Poplars and elms
 Jobling, J. 1960

Poplars and elms
 Jobling, J. 1965

The Cyprus elms
 Leefe, J.D. 1961

The names of the Cornish and the Jersey elm
 Melville, R. 1960

The elms of the Himalaya
 Melville, R. & Heybroek, H.M. 1971

A quick way to recognise the elms of England
 Mitchell, A.F. 1967

(The Wych elm forests of the USSR)
 Nicenko, A.A. 1967

Studies on *Ulmus* IV. The village elms of Huntingdonshire and a new method for exploring taxonomic discontinuity
 Richens, R.H. 1961

Studies on *Ulmus* V. The village elms of Bedfordshire
 Richens, R. H. 1961

Monophage analysis of elm populations
 Richens, R. H. 1963

Studies on *Ulmus* VI. The Fenland elms
 Richens, R.H. 1965

- Studies on Ulmus VII. Essex elms
Richens, R.H. 1967
- The correct designation of the European
field elm.
Richens, R.H. 1968
- Natural hybrids between Chinese and Cedar
elms from Texas
Santamour, F.S. 1970
- A natural hybrid between American and Siberian
elms
Santamour, F.S. 1970
- Tropical members of the Ulmaceae resistant
to Dutch elm disease.
Smalley, E.B. &
Riker, A.J. 1962
- (A provisional survey of Netherlands elms)
Touw, A. 1963
18. Plant ecology
181. Mode of life, autecology. Silvicultural characters of trees
- 181.3 Water, soil and root relations
- The influence of Dutch elm disease and plant
water stress on the foliar nutrient content of
American and Siberian elm.
Roberts, B.R. &
Jensen, K.F. 1970
- 181.31 Water relations
- (Moisture consumption and water regime of
U. pumila var arborea on reclaimed solonchak/
solonetz in semi-desert conditions)
Abramova, M.M. 1966
- (Influence of groundwater on the occurrence
and growth of forest trees in the Sriva Valley
forests at Lipovljani)
Dekanic, I. 1962
- (Features of the moisture consumption of birch
and elm stands on dark-chestnut soils in the
Urals region)
Stepanec, I.T. 1962
- 181.32 Soil and nutrient relations (general)
- (The circulation of ash elements in 10-year
elm and birch stands on dark-chestnut soils)
Stepanec, I.T. 1963
- 181.52 Sexual reproduction
- (Microsporogenesis in Ulmus species and the
influence of ecological conditions on its
development.)
Greguss, L. 1968

- 181.525 Germination and seedling development
 (The recognition of elm seedlings)
 Heybroek, H.M. 1966

Germination and survival of Colorado spruce,
 Scots pine, Caragana and Siberian elm at
 four salinity and two moisture levels.

Werkhoven, C.H.E.
 1966

- 181.65 Growth (increment) as influenced by environment

(Influence of groundwater on the occurrence and
 growth of forest trees in the Suiva Valley forests
 at Lipovljani)

Dekanic, I. 1962

2. SILVICULTURE

A modern sylva or a discourse of forest trees: elms

Edlin, H.T. 1965

23. Regeneration and formation of stands

232. Artificial regeneration

Poplars and elms

Jobling, J. 1960

4. FOREST INJURIES AND PROTECTION

41. General technique of forest protection. Types of injury

411. Natural and biological control

A first step in breeding resistant elms

Wright, J.W. 1968

414. Chemical control

414.27 Soil injection

Prevention of Dutch elm disease in large nursery
 elms by soil treatment with benomyl

Smalley, E.B. 1971

44. Damage by harmful plants. Virus diseases

443. Fungi and bacteria

443.3 Diseases of older stages

Factors determining resistance of elms to
 Ceratocystis ulmi

Elgersma, D.M. 1967

- Resistance mechanisms of elms to *Ceratocystis ulmi*.....
Elgersma, D.M. 1969
- Length and diameter of xylem vessels as factors
in resistance of elms to *Ceratocystis ulmi*
Elgersma, D.M. 1970
- The relation of mansonones to resistance against
Dutch elm disease and their accumulation, as
induced by several agents.
Elgersma, D.M. &
Overeem, J.C. 1971
- Polyphenols and discolorations in the elm
disease investigated by histochemical techniques.
Gagnon, C. 1967
- Peroxidase in healthy and diseased elm trees
investigated by the benzidine histochemical
technique.
Gagnon, C. 1968
- Histochemical studies on the alteration of lignin
and pectic substances in White elm infected
with *Ceratocystis ulmi*
Gagnon, C. 1967
- Comparative resistance of certain elm clones to
Ceratocystis and *Verticillium* Wilts.
Holmes, F.W. 1964
- Resistance of certain elm clones to *Ceratocystis*
ulmi and *Verticillium albo-atrum*
Holmes, F.W. 1967
- Dutch elm disease and botanical variation in
English elm
Jeffers, J.N.R. 1972
- Anatomical factors in resistance to Dutch elm
disease.
McNabb, H.S.
et al. 1970
- (Resistance of White elm (*Ulmus americana*) to
Ceratocystis ulmi)
Ouellet, C.E. &
Pomerleau, R. 1965
- Accumulation of mansonones E and F in *Ulmus*
hollandica infected with *Ceratocystis ulmi*
Overeem, J.C. &
Elgersma, D.M. 1970
- (Dieback of elms in Rumania)
Petrescu, M. 1963
- Relation of early cambial activity in White
elm and infection by *Ceratocystis ulmi* (Buis)
C. moreau
Pomerleau, R. 1966
- Hardiness and resistance to *Ceratocystis*
ulmi (Buis) C. moreau of hybrids and clones
of European and American elm.
Pomerleau, R. &
Bard, J. 1968

- (Dutch elm disease: *C. ulmi*)
Reboul, A. 1967
- The influence of Dutch elm disease and plant water stress on the foliar nutrient content of American and Siberian elm
Roberts, B.R. & Jensen, K.F. 1970
- Pathogenesis in Dutch elm disease
Singh, D. 1968
- Nitrogenous compounds (amino-acids) in the xylem sap of elms with Dutch elm disease (*Ceratocystis ulmi*)
Singh, D. & Smalley, E.B. 1964
- Nitrogenous compounds in the xylary sap of Ulmaceae species varying in resistance to Dutch elm disease
Singh, D. & Smalley, E.B. 1966
- Nitrogenous and carbohydrate compounds in the xylem sap of Ulmaceae species varying in resistance to Dutch elm disease.
Singh, D. & Smalley, E.B. 1969
- Changes in amino-acid and sugar constituents of xylem sap of American elm following inoculation with *Ceratocystis ulmi*.
Singh, D. & Smalley, E.B. 1969
- Nitrogenous compounds in the xylem sap of *Ulmus americana*: seasonal variations in relation to Dutch elm disease susceptibility.
Singh, D. & Smalley, E.B. 1969
- Nitrogenous compounds in the xylem sap of American elms with Dutch elm disease.
Singh, D. & Smalley, E.B. 1969
- Seasonal fluctuations in susceptibility of young elm seedlings to Dutch elm disease
Smalley, E.B. 1963
- Prevention of Dutch elm disease in large nursery elms by soil treatment with benoxyl
Smalley, E.B. 1971
- Tropical members of the Ulmaceae resistant to Dutch elm disease
Smalley, E.B. & Riker, A.J. 1962
- Methods for screening and for the rapid selection of elms for resistance to Dutch elm disease (*Ceratocystis ulmi*)
Tchernoff, V. 1966
- Relative resistance of diploid *Ulmus* species to *Ceratocystis ulmi*.
Townsend, A.M. 1971

(Investigations on the resistance of elms
to Dutch elm disease.)

Zudilin, V.A. 1969

Thermal image of Dutch elm disease

Murtha, P.A. 1970

8. FOREST PRODUCTS AND THEIR UTILIZATION

81. Wood and bark: structure and properties

810. General information on woods

(The elm (*Ulmus* species))

Anon, 1970

811. Structure. Identification

Comparative anatomy of Ulmaceae

Sweitzer, E.M. 1971

811.1 Anatomical elements and tissues

Anatomical factors in resistance to Dutch
elm disease

McNabb, H.S.
et al. 1970

812. Physical and mechanical properties

812.14 Thermal properties

Thermal image of Dutch elm disease

Murtha, P.A. 1970

813. Wood chemistry

813.1 Phenolic constituents of elm wood.

2-Napthoic acid derivatives from *Ulmus thomasii*

Chen, C-L, &
Hostettler, F.D. 1969

Histochemical studies on the alteration of lignin
and pectic substances in White elm infected
with *Ceratocystis ulmi*.

Gagnon, C. 1967

Polyphenols and discolorations in the elm
disease investigated by histochemical techniques.

Gagnon, C. 1967

Peroxiðase in healthy and diseased elm trees
investigated by the benzidine histochemical
technique.

Gagnon, C. 1968

(Histochemical technique for the study of
polyphenoloxidase in the xylem of American elms.

Gagnon, C. 1969.

Mansonone C in elm wood

Krishnamoorthy, V. &
Thomson, R.H. 1971

813.11 Lignin

Lignins of *U. thomasi* heartwood.
I. Thomasic acid

Seikel, M.K. 1968

89. Other ("minor") forest products

892. Vegetable products

892.6 Resin and turpentine. Essential oils. Fixed
oils and fats. Waxes. Gums. Latex. Dyestuffs.
Sap sugar

Stability of polyphenolic compounds in drugs
from native species of *Ulmus*.

Bednarska, D. 1971

ALPHABETICAL LIST OF REFERENCES

- Anon (1970) (The elm (*Ulmus* species)). Bulletin d'Informations Techniques, Centre Technique du Bois, 55, 3-5. (FA 32 6754)
- Anon (1970) Hybrid elm. Agricultural research, Washington 19, 12-3. (FA 32 5489)
- Abramova, M. M. (1966) (Moisture consumption and water regime of *Ulmus pumila* var. *arborea* on reclaimed solonchak/solonetz in semi-desert conditions). Pochvovedenie 6, 23-37. (FA 28 270)
- Andrearczyk, J. (1971) (Variability of elm (*Ulmus campestris* L.) leaves). Rocznik Dendrologiczny 25, 117-35. (FA 33 3843)
- Bednarska, D. (1971) Stability of polyphenolic compounds in drugs from native species of *Ulmus*. Dissertationes Pharmaceuticae et Pharmacologicae 23, 567-72. (BA 54 9825)
- Bourmerias, H. and Frileux, P. (1970) (*Ulmus laevis*, a central European species in the forest of Hez (Oise)). Cahiers des Naturalistes 26, 29-30. (BA 53 31386)
- Brayshaw, T. C. (1960) Key to the native trees of Canada. Bulletin, Department of Forestry, Canada (125) 43 pp. (FA 23 154)
- Britwum, S. P. K. (1961) Artificial hybridization in the genus *Ulmus*. Proceedings 8th NE Forest Tree Improvement Conference, New Haven, Connecticut, 1960, 43-7. (FA 23 3197)
- Chase, S. S. (1968) A case of albinism and of presumptive self-compatibility in *Ulmus* L. Rhodora 70, 294-6.8 (FA 30 1903)
- Chen, C-L, and Hostettler, F. D. (1969) Phenolic constituents of elm wood. 2-Napthoic acid derivatives from *Ulmus thomasi*. Tetrahedron 25, 3223-9. (BA 51 28142)
- Collins, P. E. (1968) Hybridization studies in the genus *Ulmus*. Dissertation Abstracts 28B, 4828-9. (FA 30 1902)
- Darrah, G. V. (1968) Woodland elms in Wessex. Forestry 41, 131-51. (FA 30 3626)
- Dekanic, I. (1962) (Influence of groundwater on the occurrence and growth of forest trees in the Suiva Valley forests at Lipovljani). Glasnik za Sumske Pokuse 15, 5-118. (FA 24 3348)
- Derman, H. and Curtis, M. (1966) Colchiploidy of *Ulmus pumila* and its possible use in hybridization with *U. americana*. Forest Science 12, 140-6. (BA 47 99028)
- Edlin, H. L. (1965) A modern sylvia or a discourse of forest trees: elms. Quarterly Journal of Forestry 59, 41-51. (FA 26 3396)
(BA 46 68238)
- Elgersma, D. M. (1967) Factors determining resistance of elms to *Ceratocystis ulmi*. Phytopathology 57, 641-2. (BA 48 98627)
- (1969) Resistance mechanisms of elms to *Ceratocystis ulmi*. Mededelingen, Phytopathologisch Laboratorium 'Willie Commelin Scholten' (77) 84 pp. (FA 31 4785)

- Grudzinskaja, I. A. and Zahareva, O. I. (1967) (The diagnostic significance of cytological characters in the taxonomy of certain tree species (as exemplified by the genus *Ulmus*)). *Botaniceskij Zurnal* 52, 614-9. (BA 49 101699) (FA 29 192)
- Hess, L. W. and Dunn, D. B. (1967) Evidence of ecological isolation between *Ulmus thomasi* Sarg. and *U. rubra* Muhl. *Transactions, Missouri Academy* 1 (Aug) 31-6. (BA 54 48157) (FA 31 6026)
- Heybroek, H. M. (1961) (The elm 'Commelin'). *Nederlands Bosbouw Tijdschrift* 33, 325-8. (FA 23 3843) (FA 24 2300)
- (1963) (The 'Groeneveld' elm). *Nederlands Bosbouw Tijdschrift* 35, 370-4. (FA 25 1770)
- (1965) (Nomenclature of elms). *Korte Mededeling, Stichting Bosbouwproefstation 'De Dorschkamp', Wageningen* (74) 1-2. (FA 27 5409)
- (1966) (The recognition of elm seedlings). *Nederlands Bosbouw Tijdschrift* 38, 448-53. (FA 28 3434)
- Holmes, F. W. (1964) Comparative resistance of certain elm clones to *Ceratocystis* and *Verticillium* Wilts. *Phytopathology* 54, 896. (FA 26 2411) (BA 46 36212)
- (1967) Resistance of certain elm clones to *Ceratocystis ulmi* and *Verticillium albo-atrum*. *Phytopathology* 57, 1247-9. (BA 49 31610)
- Jeffers, J. N. R. (1972) Dutch elm disease and botanical variation in English elm. *Nature, London*, 236, 407-8.
- Jeffers, J. N. R. and Richens, R. H. (1970) Multivariate analysis of the English elm population. *Silvae genetica* 19, 31-8. (FA 31 6017)
- Jobling, J. (1959) Poplars and elms. Report on Forest Research, Forestry Commission, London, 54-8. (FA 22 1693)
- (1964) Poplars and elms. Report on Forest Research, Forestry Commission, London, 40-6. (BA 48 25183)
- Krishnamoorthy, V. and Thomson, R. H. (1971) Mansonone C₁ in elm wood. *Phytochemistry* 10, 1669-70. (BA 53 4765)
- Laing, C. C. (1966) Structure, formation and dormancy of terminal buds of elm (*Ulmus rubra* and *U. americana*). *Botanical Gazette* 127, 127-32. (FA 28 3320)
- Leefe, J. D. (1961) The Cyprus elms. *Cyprus Forestry College Magazine* 1, 28-9. (FA 23 3257)
- Lester, D. (1969) Genetics and breeding of American elm. Proceedings 16th NE Forest Tree Improvement Conference, Quebec, 1968, 9-13. (FA 32 218)

- Richard, P. (1970) (Pollen atlas of indigenous trees and shrubs in Quebec: III ... Ulmaceae). *Naturaliste Canadien* 97, 97-161. (BA 52 3972)
- Richens, R. H. (1961) Studies on *Ulmus*. IV. The village elms of Huntingdonshire, and a new method for exploring taxonomic discontinuity. *Forestry* 34, 47-64. (FA 23 134)
- (1961) Studies on *Ulmus*. V. The village elms of Bedfordshire. *Forestry* 34, 181-200. (FA 23 3198)
- (1963) Monophage analysis of elm populations. FAO World Consultation on Forest Genetics, Stockholm 1963, No. FAO/FORGEN 63/-6B/4. (FA 25 240)
- (1965) Studies on *Ulmus*. VI. Fenland elms. *Forestry* 38, 225-35. (BA 47 34435)
(FA 27 3476)
- (1967) Studies on *Ulmus*. VII. Essex elms. *Forestry* 40, 185-206. (FA 29 1934)
- (1968) The correct designation of the European field elm. *Feddes Repertorium* 79, 1-2. (BSBI Abs (1) 62)
- Roberts, B. R. and Jensen, K. F. (1970) The influence of Dutch elm disease and plant water stress on the foliar nutrient content of American and Siberian Elm. *Phytopathology* 60, 1831-3. (FA 32 6295)
(BA 52 51375)
- Sander, D. H. (1967) Investigation of the relationship between soil properties and the growth of Siberian elm trees in the loess plains of Nebraska. *Dissertation Abstracts* 28B, 409-10. (FA 29 3544)
- Santamour, F. S. (1969) New chromosome counts in *Ulmus* and *Platanus*. *Rhodora* 71, 544-7. (FA 31 5957)
(BA 52 41496)
- (1970) A natural hybrid between American and Siberian elms. *Forest Science* 16, 149-53. (FA 32 214)
(BA 51 121561)
- (1970) Natural hybrids between Chinese and Cedar elms from Texas. *Bulletin, Torrey Botanical Club* 97, 72-3. (FA 32 215)
- (1972) Flavonoid distribution in *Ulmus*. *Bulletin, Torrey Botanical Club* 99, 127-30.
- Sarabhai, R. P. and Saxena, A. K. (1961) Petiolar anatomy of some *Urticales*. *Bulletin, Botanical Society, University of Saugar*, 13, 102-7. (BA 48 14875)
- Schreiber, L. R. and Roberts, B. R. (1971) Intraclonal versus intraseedling variation in *Ulmus americana* L. and *U. pumila* L. *Journal, American Society for Horticultural Science* 96, 115-6. (BA 52 66258)
- Seikel, M. K. (1968) Lignans of *Ulmus thomasi* heartwood. I. Thomsic acid. *Tetrahedron* 24, 1475-88. (FA 29 6398)

- Tchernoff, V. (1966) Methods for screening and for the rapid selection of elms for resistance to Dutch elm disease (*Ceratocystis ulmi*).
Acta Botanica Neerlandica 14, 409-52. (FA 27 6221)
(BA 47 89540)
- Touw, A. (1963) (A provisional survey of Netherland elms) Jaarboek,
Nederlandsche Dendrologische Vereeniging 22, 57-72. (FA 25 1817)
(BA 46 82067)
(BSBI Proc. 7, 229)
- Townsend, A. M. (1971) Relative resistance of diploid *Ulmus* species to
Ceratocystis ulmi. Plant Disease Reporter 55, 980-2. (BA 53 39774)
- Werkhoven, C. H. E. (1966) Germination and survival of Colorado spruce, Scots
pine, Caragana and Siberian elm at four salinity and two moisture levels.
Canadian Journal of Plant Science 46, 1-7. (FA 29 3545)
- Wieckowska, I. (1970) (Studies on the morphogenesis of tree leaves. I. The
shape of leaves on short shoots of *Ulmus laevis*). Acta Societatis
Botanicorum Poloniae 39, 751-68. (FA 32 5432)
- Winieski, J. A. (1960) Artificial hybridization and grafting methods with
Ulmus americana. Proceedings 7th NE Forest Tree Improvement Conference,
Burlington, 1959, 48-51. (FA 22 1767)
- Wright, J. W. (1968) A first step in breeding resistant elms. Proceedings
6th Central States Forest Tree Improvement Conference, Carbondale,
Illinois, and St. Louis, Mississippi, 25-8. (FA 31 5952)
- Zudilin, V. A. (1969) (Investigations on the resistance of elms to Dutch elm
disease). Lesnoe Hozjajstvo (3) 62-4. (FA 31 2805)

- Singh, D. (1968) Pathogenesis in Dutch elm disease. Dissertation Abstracts 28B, 4378-9. (FA 30 2559)
- Singh, D. and Smalley, E. B. (1964) Nitrogenous compounds (amino-acids) in the xylem sap of elms with Dutch elm disease (*Ceratocystis ulmi*). *Phytopathology* 54, 908. (FA 26 2412)
(BA 46 45199)
- (1966) Nitrogenous compounds in the xylary sap of *Ulmaceae* species varying in resistance to Dutch elm disease. *Phytopathology* 56, 901. (FA 28 820)
- (1969) Nitrogenous and carbohydrate compounds in the xylem sap of *Ulmaceae* species varying in resistance to Dutch elm disease. *Canadian Journal of Botany* 47, 335-9. (FA 31 901)
(BA 50 78151)
- (1969) Changes in amino-acid and sugar constituents of xylem sap of American elm following inoculation with *Ceratocystis ulmi*. *Phytopathology* 59, 891-6. (FA 31 902)
- (1969) Nitrogenous compounds in the xylem sap of *Ulmus americana*: seasonal variations in relation to Dutch elm disease susceptibility. *Forest Science* 15, 299-304. (FA 31 2808)
(BA 51 40270)
- (1969) Nitrogenous compounds in the xylem sap of American elms with Dutch elm disease. *Canadian Journal of Botany* 47, 1061-5. (FA 31 2809)
- Smalley, E. B. (1963) Seasonal fluctuations in susceptibility of young elm seedlings to Dutch elm disease. *Phytopathology* 53, 846-53. (FA 25 864)
- (1971) Prevention of Dutch elm disease in large nursery elms by soil treatment with benomyl. *Phytopathology* 61, 1351-4. (BA 53 39680)
- Smalley, E. B. and Riker, A. J. (1962) Tropical members of the *Ulmaceae* resistant to Dutch elm disease. *Forestry Research Notes, University of Wisconsin College of Agriculture* (77) 4 pp. (FA 24 2299)
- Stepanec, I. T. (1962) (Features of the moisture consumption of birch and elm stands on dark-chestnut soils in the Urals region). *Pocvovedenie* 9, 69-79. (FA 24 1713)
- (1963) (The circulation of ash elements in 10-year elm and birch stands on dark-chestnut soils.) *Pocvovedenie* 2, 68-74. (FA 24 4741)
- Stockmarr, J. (1970) Species identification of *Ulmus* pollen. *Danmarke Geologiske Undersogelse IV Raekke* 4, 11-19. (BA 52 115137)
- Sweitzer, E. M. (1971) Comparative anatomy of *Ulmaceae*. *Journal, Arnold Arboretum, Harvard University*, 52, 523-85. (BA 54 35514)
- Tarnavschi, I. T. and others (1967) (On the pollen morphology of the *Urticales* from the Romanian flora). *Revue Roumaine de Biologie (Serie de Botanique)* 12, 251-62. (BA 49 14854)

- Lester, D. T. (1970) An attempt to induce polyhaploidy in American elm. Forest Science 16, 137-8. (FA 32 219)
- Lester, D. T. and Smalley, E. B. (1968) Prospects for elm breeding in Wisconsin. Proceedings 6th Central States Forest Tree Improvement Conference, Carbondale, Illinois and St. Louis, Mississippi, 37-43. (FA 31 5953)
- McNabb, H. S. and others (1970) Anatomical factors in resistance to Dutch elm disease. Netherlands Journal of Plant Pathology 76, 196-205. (FA 32 1011)
(BA 51 121566)
- Melville, R. (1960) The names of the Cornish and the Jersey elm. Kew Bulletin 14, 216-8. (FA 22 1495)
- Melville, R. and Heybroek, H. M. (1971) The elms of the Himalaya. Kew Bulletin 26, 5-28. (BA 54 728)
- Mitchell, A. F. (1967) A quick way to recognise the elms of England. Timber Trades Journal 260 (April 8): Suppl. (Forestry and home-grown timber) 20-1. (FA 28 5215)
- Mrkos, O. (1964) (Mortal leaf reactions and their significance in plant taxonomy). Acta Universitatis Palackianae Olomucensis Facultas Rerum Naturalium Biologica 5, 59-83. (BA 50 133528)
- Murtha, P. A. (1970) Thermal image of Dutch elm disease. Bi-monthly Research Notes, Department of Forestry, Canada, 26, 28-9. (FA 32 1012)
- Nicencko, A. A. (1967) (The Wych elm forests of the USSR). Lesovedenie (1) 46-53. (FA 28 3557)
- Ouellet, C-E. and Pomerleau, R. (1965) (Resistance of White elm (*Ulmus americana*) to *Ceratocystis ulmi*). Canadian Journal of Botany 43, 85-96. (FA 26 5358)
(BA 46 77541)
- Overeem, J. C. and Elgersma, D. M. (1970) Accumulation of mansonones E and F in *Ulmus hollandica* infected with *Ceratocystis ulmi*. Phytochemistry 9, 1944-52. (FA 32 1013)
(FA 32 4485)
- Petrescu, M. (1963) (Dieback of elms in Rumania). Studii si Cercetari, Institutul de Cercetari Forestiere, Bucuresti 23B, 135-51. (FA 26 857)
- Pomerleau, R. (1966) Relation of early cambial activity in White elm and infection by *Ceratocystis ulmi* (Buis) C. moreau. Canadian Journal of Botany 44, 109-11. (FA 27 6248)
- Pomerleau, R. and Bard, J. (1968) Hardiness and resistance to *Ceratocystis ulmi* (Buis) C. moreau of hybrids and clones of European and American elm. Bi-monthly Research Notes, Department of Forestry, Canada, 24, 26. (FA 30 2561)
- Reboul, A. (1967) (Dutch elm disease: *Ceratocystis ulmi*). Revue Forestiere Francaise 19, 309-31. (FA 28 5882)

- Elgersma, D. M. (1970) Length and diameter of xylem vessels as factors in resistance of elms to *Ceratocystis ulmi*. *Netherlands Journal of Plant Pathology* 76, 179-82. (FA 32 1009)
(BA 51 121565)
- Elgersma, D. M. and Overeem, J. C. (1971) The relation of mansonones to resistance against Dutch elm disease and their accumulation, as induced by several agents. *Netherlands Journal of Plant Pathology* 77, 168-74. (BA 53 16402)
- Elias, T. S. (1970) The genera of Ulmaceae in the south-eastern United States. *Journal, Arnold Arboretum, Harvard University*, 51, 18-40. (FA 31 4024)
(52 18213)
- Endtmann, J. (1967) (Taxonomy of central European species-groups of *Ulmus*). *Archiv für Forstwesen* 16, 667-72. (FA 29 3496)
- Erpert, S. D. (1960) (Features of the growth of annual shoots of *Ulmus pumila* var. *arborea*). *Soobshcheniya Laboratorii Lesovedeniya* (2) 88-104. (FA 22 1421)
- Feret, P. P. and Stairs, G. R. (1971) Peroxidase inheritance in Siberian elms. *Forest Science* 17, 472-5. (BA 53 60527)
- Fontaine, F. J. (1968) (Elm) *Dendroflora* 5, 36-55. (BA 51 133159)
- Gagnon, C. (1967) Histochemical studies on the alteration of lignin and pectic substances in White elm infected with *Ceratocystis ulmi*. *Canadian Journal of Botany* 45, 1619-23. (FA 29 5855)
- (1967) Polyphenols and discolorations in the elm disease investigated by histochemical techniques. *Canadian Journal of Botany* 45, 2119-24. (FA 29 5856)
- (1968) Peroxidase in healthy and diseased elm trees investigated by the benzidine histochemical technique. *Canadian Journal of Botany* 46, 1491-4. (FA 30 5961)
- (1969) (Histochemical technique for the study of polyphenoloxidase in the xylem of American elms). *Naturaliste Canadien* 96, 203-10. (BA 51 4925)
- Greguss, L. (1968) (Microsporogenesis in *Ulmus* species and the influence of ecological conditions on its development). *Vedecke Prace, Vyskumny Ustav Lesneko Hospodarstva Zvolen* (10) 45-69. (FA 31 5888)
- Grudzinskaja, I. A. (1962) (The systematic position of *Ulmus pinnato-ramosa*). *Soobshcheniya Laboratorii Lesovedeniya* (6) 19-27. (FA 24 1685)
- (1966) (Inflorescences of *Ulmus* species: their formation, structure and problems of their evolution). *Botaniceskij Zurnal* 51, 15-27. (BA 48 113506)
- (1967) (The Ulmaceae and reasons for distinguishing the Celtidoideae as a separate family Celtidaceae Link). *Botaniceskij Zurnal* 52, 1723-49. (BA 50 4214)