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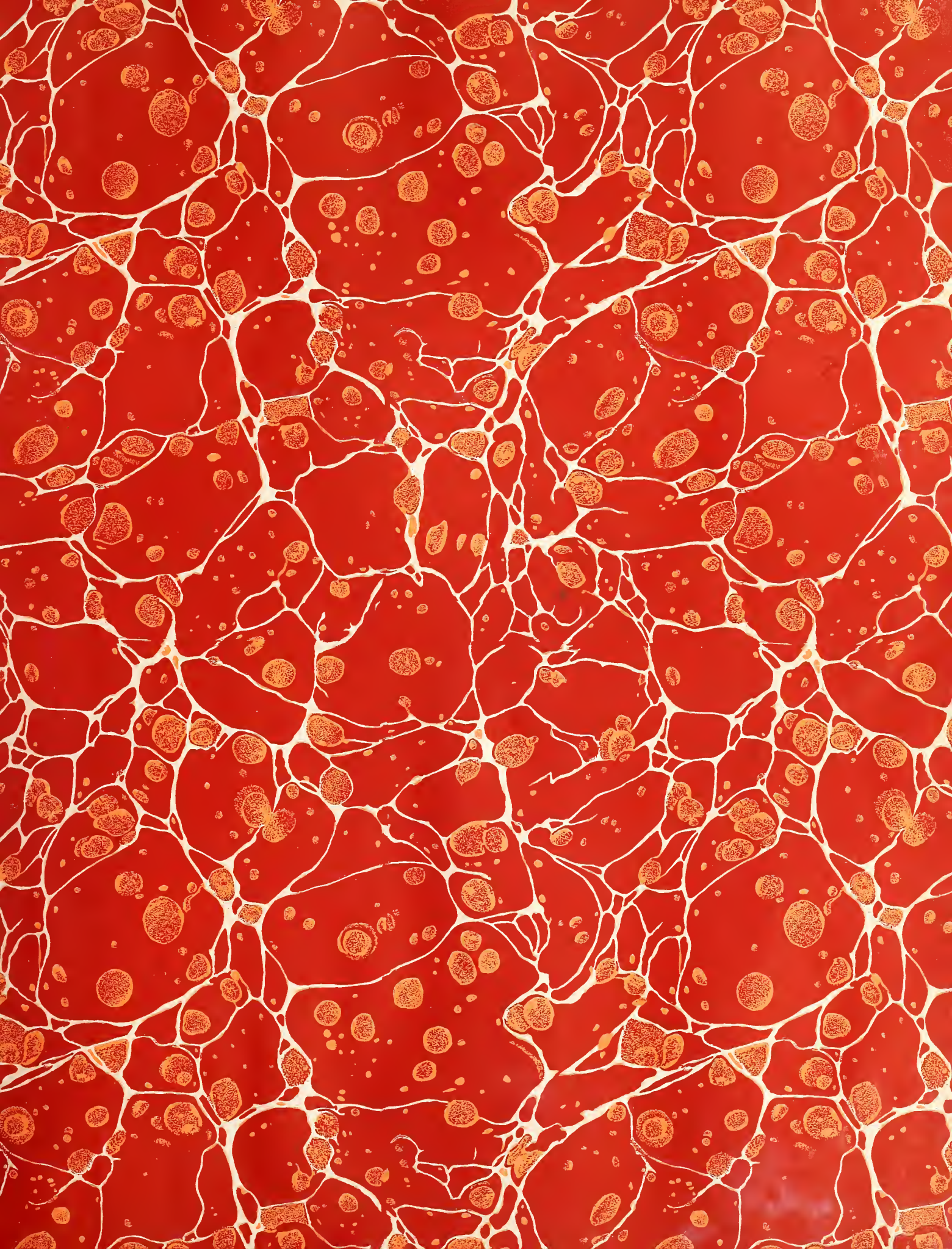
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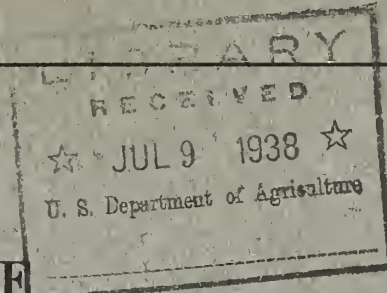
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UNITED STATES DEPARTMENT OF AGRICULTURE

MISCELLANEOUS PUBLICATION No. 287

WASHINGTON, D. C.

APRIL 1938



THE
DISTRIBUTION OF IMPORTANT FOREST TREES
OF THE UNITED STATES

BY

E. N. MUNNS

Chief, Division of Forest Influences
Forest Service



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THE DISTRIBUTION OF IMPORTANT FOREST TREES OF THE
UNITED STATES

By E. N. MUNNS, *Chief, Division of Forest Influences,¹ Forest Service*

INTRODUCTION

Information on the range and distribution of forest trees has far-reaching practical usefulness in addition to its value to botanists, naturalists, teachers, and others whose work or interests are with trees. It is a valuable tool for the forester, the lumberman, and the manufacturer in search of raw materials. It is an essential element in erosion and flood control operations, and in land-use planning. Indeed, present trends toward better planning and integration of land use are directing increased attention to forest cover, the species represented in it, and the possibilities of enlarging the contribution of forest land to community welfare. In some cases the occurrence of certain species in a region may assume major importance in such planning. It is the purpose of this publication to make readily accessible the information available in the Forest Service on the distribution of important forest trees.

The Forest Service, for over 30 years, has been actively gathering data on the species of trees present in the United States and the extent of their occurrence. More than 20 years ago distribution maps were published for American pines, and as a result much new information on these and other forest-tree species has been obtained. Much of this information has been presented in condensed form in United States Department of Agriculture Miscellaneous Circular 92, Check List of the Forest Trees of the United States, Their Names and Ranges. There has

been a strong demand, however, to have this material available on maps because of the greater accuracy, simplicity, and detail possible in this form of presentation. Even the most detailed published descriptions of species distribution are found to be too broadly generalized when an attempt is made to plot the ranges on maps. A mere listing of known points of occurrence would be even less satisfactory.

The maps do not, however, carry any implication as to the density, continuity of occurrence, or commercial quality and quantity of the various species. Lumbering, fire, and agricultural development in many parts of the United States have markedly affected the original forest. Although in some instances they may have caused an extension of the range of some species, their influence is usually in the opposite direction, and in extreme cases, such as in portions of the Lake States and the South, they have eliminated formerly abundant species from fairly large areas. It is, however, impractical to show such locally depleted areas on maps of the scale used.

No attempt has been made to show the commercial range of important timber tree species, since changing demands, practices, and standards in utilization would make such information out of date in a comparatively short time.

So many sources of information, published and unpublished, have been drawn upon in the preparation of the maps that individual reference and acknowledgment is not feasible. The sources include taxonomic and botanical handbooks, ecological papers, and occurrence

¹ The maps here presented have been based very largely upon data collected by the late George B. Sudworth, dendrologist of the Forest Service until his death in 1927. Since his death this work has been carried on as an activity of the Division of Silvics. Many of the more recent data have been compiled by William W. Mitchell, junior forester.

notes by botanists, foresters, biologists, and other workers. However, since not all of the unpublished notes have been supported by authenticated herbarium specimens, an effort has been made to include only reports of qualified observers.

Nomenclature of the species, both scientific and common names, and the order of arrangement, follow the Check List. Since the issuance of that publication in 1927, certain minor revisions in the standard nomenclature have been adopted by the Forest Service. These have been incorporated in the present publication along with other minor corrections listed below.

CHECK LIST

CORRECTION

<i>Pinus monticola</i> D. Don.	<i>Pinus monticola</i> Douglas.
<i>Pinus balfouriana</i> Murray.	<i>Pinus balfouriana</i> A. Murray.
<i>Pinus resinosa</i> Solander.	<i>Pinus resinosa</i> Aiton.
<i>Pinus ponderosa</i> Lawson.	<i>Pinus ponderosa</i> Douglas.
<i>Pinus jeffreyi</i> "Oreg. Com."	<i>Pinus jeffreyi</i> Greville and Balfour.
<i>Pinus contorta</i> Loudon.	<i>Pinus contorta</i> Douglas.
<i>Picea engelmannii</i> Engelman.	<i>Picea engelmanni</i> (Parry) Engelman.
<i>Pseudotsuga taxifolia</i> (Lamark) Britton.	<i>Pseudotsuga taxifolia</i> (Lambert) Britton.

CHECK LIST—continued

CORRECTION—continued

<i>Abies concolor</i> Lindley and Gordon.	<i>Abies concolor</i> Lindley.
<i>Abies amabilis</i> (Loudon) Forbes.	<i>Abies amabilis</i> (Douglas) Forbes.
<i>Chamaecyparis nootkatensis</i> (Lambert) Sudworth.	<i>Chamaecyparis nootkatensis</i> (Lambert) Spach.
<i>Populus trichocarpa</i> Hooker.	<i>Populus trichocarpa</i> Torrey and Gray.
<i>Ostrya virginiana</i> (Miller) Koch.	<i>Ostrya virginiana</i> (Miller) K. Koch.
<i>Betula lutea</i> Michaux.	<i>Betula lutea</i> Michaux filius.
<i>Betula populifolia</i> Marsh.	<i>Betula populifolia</i> Marshall.
<i>Gymnocladus dioicus</i> (Linnaeus) Koch.	<i>Gymnocladus dioicus</i> (Linnaeus) K. Koch.
<i>Acer nigrum</i> F. A. Michaux.	<i>Acer nigrum</i> Michaux filius.

Although collection of data has continued for many years, the records are still incomplete. One of the objectives of the present publication, therefore, is to stimulate interest in the accumulation of more accurate information on the distribution of our North American trees. The Forest Service will welcome data indicating the need for changes on the present maps. Location data should be as specific as possible to facilitate plotting, and occurrence should be substantiated by herbarium specimens when their collection is practicable.

TREE DISTRIBUTION MAPS

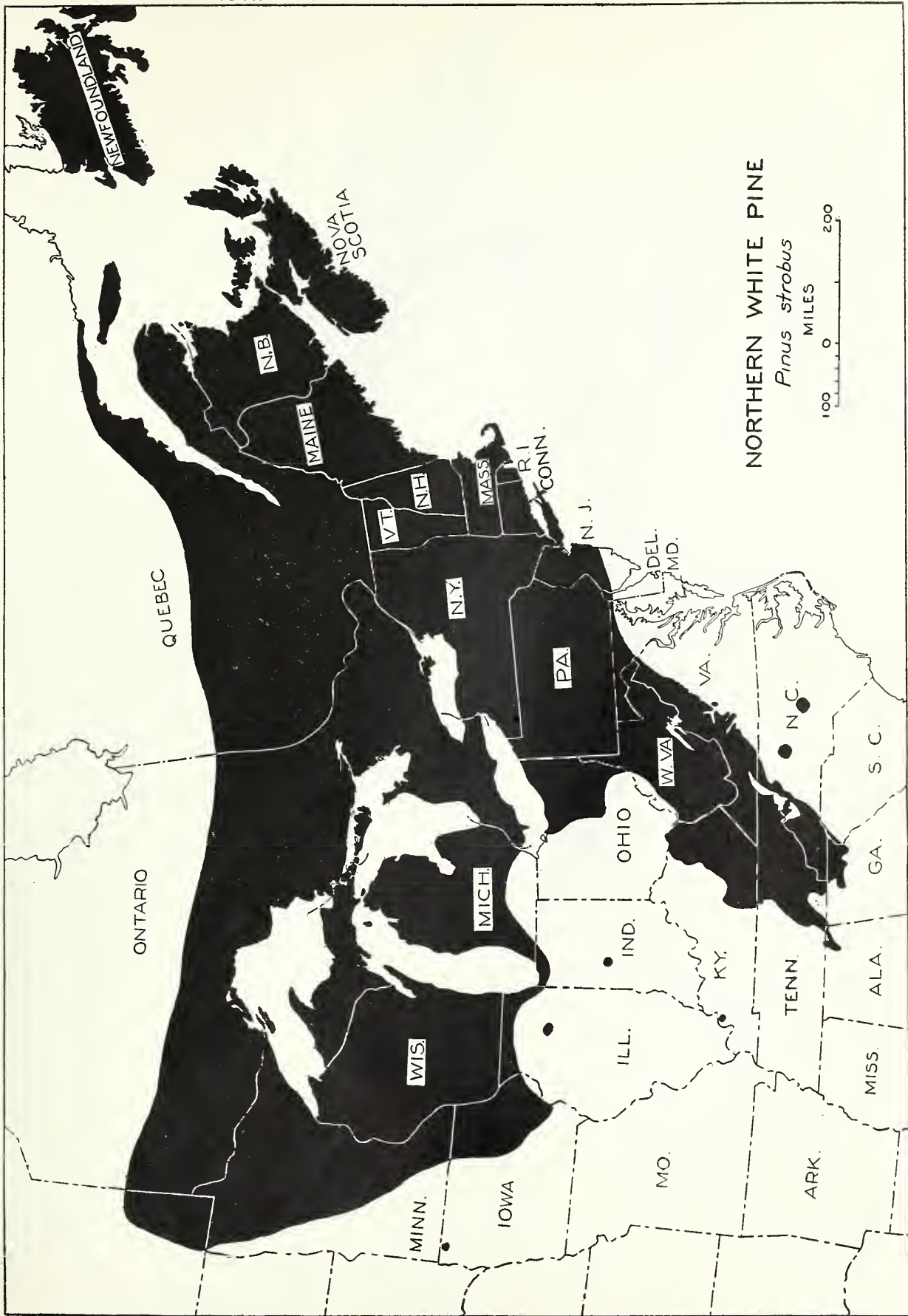
	Map no.		Map no.
<i>Pinus strobus</i> Linnaeus, northern white pine.....	1	<i>Chamaecyparis thyoides</i> (Linnaeus) Britton, Sterns, and Poggenberg, southern white cedar.....	55
<i>Pinus monticola</i> Douglas, western white pine.....	2	<i>Chamaecyparis nootkatensis</i> (Lambert) Spach, Alaska cedar.....	56
<i>Pinus lambertiana</i> Douglas, sugar pine.....	3	<i>Chamaecyparis lawsoniana</i> (A. Murray) Parlatore, Port Orford cedar.....	57
<i>Pinus flexilis</i> James, limber pine.....	4	<i>Juniperus occidentalis</i> Hooker, western juniper.....	58
<i>Pinus albicaulis</i> Engelm., whitebark pine.....	5	<i>Juniperus virginiana</i> Linnaeus, eastern red cedar.....	59
<i>Pinus strobiformis</i> Engelm., Mexican white pine.....	6	<i>Taxus brevifolia</i> Nuttall, Pacific yew.....	60
<i>Pinus cembroides</i> Zuccarini, Mexican piñon.....	7	<i>Juglans cinerea</i> Linnaeus, butternut.....	61
<i>Pinus edulis</i> Engelm., piñon.....	8	× <i>Juglans quadrangulata</i> Rehder.....	62
<i>Pinus monophylla</i> Torrey and Fremont, singleleaf piñon.....	9	<i>Juglans nigra</i> Linnaeus, black walnut.....	63
<i>Pinus balfouriana</i> A. Murray, foxtail pine.....	10	<i>Hicoria pecan</i> (Marshall) Britton, pecan.....	64
<i>Pinus aristata</i> Engelm., bristlecone pine.....	11	<i>Hicoria cordiformis</i> (Wangenheim) Britton, bitternut hickory.....	65
<i>Pinus resinosa</i> Aiton, red pine.....	12	<i>Hicoria ovata</i> (Miller) Britton, shagbark hickory.....	66
<i>Pinus ponderosa</i> Douglas, ponderosa pine.....	13	<i>Hicoria laciniosa</i> (Michaux filius) Sargent, bigleaf shagbark hickory.....	67
<i>Pinus jeffreyi</i> Greville and Balfour, Jeffrey pine.....	14	<i>Hicoria alba</i> (Linnaeus) Britton, mockernut hickory.....	68
<i>Pinus contorta</i> Douglas, lodgepole pine.....	15	<i>Hicoria glabra</i> (Miller) Sweet, pignut hickory.....	69
<i>Pinus sabiniana</i> Douglas, digger pine.....	16	<i>Populus tremuloides</i> Michaux, aspen.....	70
<i>Pinus coulteri</i> D. Don, Coulter pine.....	17	<i>Populus grandidentata</i> Michaux, largetooth aspen.....	71
<i>Pinus taeda</i> Linnaeus, loblolly pine.....	18	<i>Populus heterophylla</i> Linnaeus, swamp cottonwood.....	72
<i>Pinus rigida</i> Miller, pitch pine.....	19	<i>Populus balsamifera</i> Linnaeus, balsam poplar.....	73
<i>Pinus rigida serotina</i> (Michaux) Loudon, pond pine.....	20	<i>Populus trichocarpa</i> Torrey and Gray, black cottonwood.....	74
<i>Pinus virginiana</i> Miller, Virginia pine.....	21	<i>Populus deltoides</i> Marshall, eastern cottonwood.....	75
<i>Pinus echinata</i> Miller, shortleaf pine.....	22	<i>Populus deltoides virginiana</i> (Castiglioni) Sudworth, southern cottonwood.....	76
<i>Pinus glabra</i> Walter, spruce pine.....	23	<i>Salix nigra</i> Marshall, black willow.....	77
<i>Pinus banksiana</i> Lambert, jack pine.....	24	<i>Salix amygdaloides</i> Andersson, peachleaf willow.....	78
<i>Pinus palustris</i> Miller, longleaf pine.....	25	<i>Carpinus caroliniana</i> Walter, blue beech.....	79
<i>Pinus caribaea</i> Morelet, slash pine.....	26	<i>Ostrya virginiana</i> (Miller) K. Koch, hophornbeam.....	80
<i>Larix laricina</i> (DuRoi) K. Koch, tamarack.....	27	<i>Betula lenta</i> Linnaeus, sweet birch.....	81
<i>Larix occidentalis</i> Nuttall, western larch.....	28	<i>Betula lutea</i> Michaux filius, yellow birch.....	82
<i>Picea mariana</i> (Miller) Britton, Sterns, and Poggenberg, black spruce.....	29	<i>Betula nigra</i> Linnaeus, river birch.....	83
<i>Picea rubra</i> Link, ² red spruce.....	30	<i>Betula populifolia</i> Marshall, gray birch.....	84
<i>Picea glauca</i> (Moench) Voss, white spruce.....	31	<i>Betula papyrifera</i> Marshall, paper birch.....	85
<i>Picea engelmanni</i> (Parry) Engelm., Engelm. spruce.....	32	<i>Alnus rubra</i> Bongard, ⁴ red alder.....	86
<i>Picea pungens</i> Engelm., blue spruce.....	33	<i>Alnus rhombifolia</i> Nuttall, white alder.....	87
<i>Picea sitchensis</i> (Bongard) Carrière, Sitka spruce.....	34	<i>Fagus grandifolia</i> Ehrhart, beech.....	88
<i>Tsuga canadensis</i> (Linnaeus) Carrière, eastern hemlock.....	35	<i>Castanea pumila</i> (Linnaeus) Miller, chinquapin.....	89
<i>Tsuga heterophylla</i> (Rafinesque) Sargent, western hemlock.....	36	<i>Castanea dentata</i> (Marshall) Borkhausen, chestnut.....	90
<i>Tsuga mertensiana</i> (Bongard) Sargent, mountain hemlock.....	37	<i>Lithocarpus densiflora</i> (Hooker and Arnott) Rehder, tanoak.....	91
<i>Pseudotsuga taxifolia</i> (Lambert) Britton, ³ Douglas fir.....	38	<i>Quercus borealis</i> Michaux filius, red oak.....	92
<i>Pseudotsuga macrocarpa</i> (Torrey) Mayr, bigcone-spruce.....	39	<i>Quercus borealis maxima</i> (Marshall) Ashe, red oak.....	93
<i>Abies balsamea</i> (Linnaeus) Miller, balsam fir.....	40	<i>Quercus palustris</i> Muenchhausen, pin oak.....	94
<i>Abies lasiocarpa</i> (Hooker) Nuttall, alpine fir.....	41	<i>Quercus shumardii</i> Buckley, Shumard red oak.....	95
<i>Abies arizonica</i> Merriam, corkbark fir.....	42	<i>Quercus ellipsoidalis</i> E. J. Hill, jack oak.....	96
<i>Abies grandis</i> Lindley, lowland white fir.....	43	<i>Quercus coccinea</i> Muenchhausen } scarlet oak.....	97
<i>Abies concolor</i> Lindley, white fir.....	44	<i>Quercus coccinea tuberculata</i> Sargent } black oak.....	98
<i>Abies amabilis</i> (Douglas) Forbes, silver fir.....	45	<i>Quercus velutina</i> La Marck } black oak.....	99
<i>Abies nobilis</i> Lindley, noble fir.....	46	<i>Quercus velutina missouriensis</i> Sargent } black oak.....	100
<i>Abies magnifica</i> A. Murray, California red fir.....	47	<i>Quercus kelloggii</i> Newberry, California black oak.....	101
<i>Abies magnifica shastensis</i> Lemmon, Shasta red fir.....	48	<i>Quercus ilicifolia</i> Wangenheim, bear oak.....	102
<i>Sequoia washingtoniana</i> (Winslow) Sudworth, bigtree.....	49	<i>Quercus rubra</i> Linnaeus, southern red oak.....	103
<i>Sequoia sempervirens</i> (Lambert) Endlicher, redwood.....	50	<i>Quercus rubra pagodaefolia</i> (Elliott) Ashe, swamp red oak.....	104
<i>Taxodium distichum</i> (Linnaeus) Richard, southern cypress.....	51	<i>Quercus marilandica</i> Muenchhausen } blackjack oak.....	105
<i>Libocedrus decurrens</i> Torrey, incense cedar.....	52	<i>Quercus marilandica ashei</i> Sudworth } blackjack oak.....	106
<i>Thuja occidentalis</i> Linnaeus, northern white cedar.....	53		
<i>Thuja plicata</i> D. Don, western red cedar.....	54		

² Although this name has been adopted in the Check List many well-qualified taxonomists prefer *Picea rubens* Sargent.

³ Although this name has been adopted in the Check List many well-qualified taxonomists prefer *Pseudotsuga mucronata* (Rafinesque) Sudworth.

⁴ Although this name has been adopted in the Check List many well-qualified taxonomists prefer *Alnus oregona* Nuttall.

	Map no.		Map no.
<i>Quercus nigra</i> Linnaeus, water oak	103	<i>Prunus pennsylvanica</i> Linnaeus filius, pin cherry	136
<i>Quercus phellos</i> Linnaeus, willow oak		<i>Prunus virginiana</i> Linnaeus, chokecherry	137
× <i>Quercus heterophylla</i> Michaux filius, Bartram oak	104	<i>Prunus serotina</i> Ehrhart, black cherry	138
<i>Quercus laurifolia</i> Michaux, laurel oak	105	<i>Cercis canadensis</i> Linnaeus, redbud	139
<i>Quercus imbricaria</i> Michaux, shingle oak	106	<i>Cercis occidentalis</i> Torrey, California redbud	140
<i>Quercus chrysolepis</i> Liebmann, canyon live oak	107	<i>Gymnocladus dioica</i> (Linnaeus) K. Koch, coffeetree	141
<i>Quercus virginiana</i> Miller, live oak	108	<i>Gleditsia triacanthos</i> Linnaeus, honeylocust	142
<i>Quercus douglasii</i> Hooker and Arnott, California blue oak	109	<i>Robinia pseudoacacia</i> Linnaeus, black locust	143
<i>Quercus alba</i> Linnaeus, white oak	110	<i>Ptelea trifoliata</i> Linnaeus, hoptree	144
<i>Quercus lobata</i> Née, valley white oak	111	<i>Ilex opaca</i> Aiton, holly	145
<i>Quercus garryana</i> Douglas, Oregon white oak	112	<i>Acer pennsylvanicum</i> Linnaeus, striped maple	146
<i>Quercus utahensis</i> (A. de Candolle) Rydberg, Rocky Mountain white oak	113	<i>Acer macrophyllum</i> Pursh, bigleaf maple	147
<i>Quercus stellata</i> Wangenheim, post oak	114	<i>Acer saccharum</i> Marshall, sugar maple	148
<i>Quercus macrocarpa</i> Michaux, bur oak	115	<i>Acer nigrum</i> Michaux filius, black maple	149
<i>Quercus bicolor</i> Willdenow, swamp white oak	116	<i>Acer saccharinum</i> Linnaeus, silver maple	150
<i>Quercus prinus</i> Linnaeus, swamp chestnut oak	117	<i>Acer rubrum</i> Linnaeus, red maple	151
<i>Quercus montana</i> Willdenow, chestnut oak	118	<i>Acer negundo</i> Linnaeus, boxelder	152
<i>Quercus muehlenbergii</i> Engelm, chinquapin oak	119	<i>Aesculus glabra</i> Willdenow, Ohio buckeye	153
<i>Ulmus americana</i> Linnaeus, American elm	120	<i>Aesculus octandra</i> Marshall, yellow buckeye	154
<i>Celtis occidentalis</i> Linnaeus, hackberry	121	<i>Rhamnus purshiana</i> de Candolle, cascara	155
<i>Celtis laevigata</i> Willdenow, sugarberry	122	<i>Tilia glabra</i> Ventenat, basswood	156
<i>Morus rubra</i> Linnaeus, red mulberry	123	<i>Nyssa sylvatica</i> Marshall, black gum	157
<i>Toxylon pomiferum</i> Rafinesque, osage-orange	124	<i>Nyssa aquatica</i> Linnaeus, tupelo gum	158
<i>Magnolia virginiana</i> Linnaeus, sweetbay	125	<i>Cornus florida</i> Linnaeus, dogwood	159
<i>Magnolia acuminata</i> Linnaeus, cucumber magnolia	126	<i>Rhododendron maximum</i> Linnaeus, great rhododendron	160
<i>Liriodendron tulipifera</i> Linnaeus, yellow poplar	127	<i>Kalmia latifolia</i> Linnaeus, mountain-laurel	161
<i>Umbellularia californica</i> (Hooker and Arnott) Nuttall, California-laurel	128	<i>Diospyros virginiana</i> Linnaeus, persimmon	162
<i>Sassafras variifolium</i> (Salisbury) Kuntze, sassafras	129	<i>Fraxinus quadrangulata</i> Michaux, blue ash	163
<i>Hamamelis virginiana</i> Linnaeus, witch-hazel	130	<i>Fraxinus nigra</i> Marshall, black ash	164
<i>Liquidambar styraciflua</i> Linnaeus, red gum	131	<i>Fraxinus americana</i> Linnaeus, white ash	165
<i>Platanus occidentalis</i> Linnaeus, sycamore	132	<i>Fraxinus biltmoreana</i> Beadle, Biltmore white ash	166
<i>Amelanchier canadensis</i> (Linnaeus) Medicus, serviceberry	133	<i>Fraxinus pennsylvanica</i> Marshall, red ash	167
<i>Cercocarpus ledifolius</i> Nuttall, curleaf mountain-mahogany	134	<i>Fraxinus pennsylvanica lanceolata</i> (Borkhausen) Sargent, green ash	168
<i>Prunus americana</i> Marshall, wild plum	135	<i>Fraxinus oregona</i> Nuttall, Oregon ash	169
		<i>Catalpa speciosa</i> Warder, hardy catalpa	170

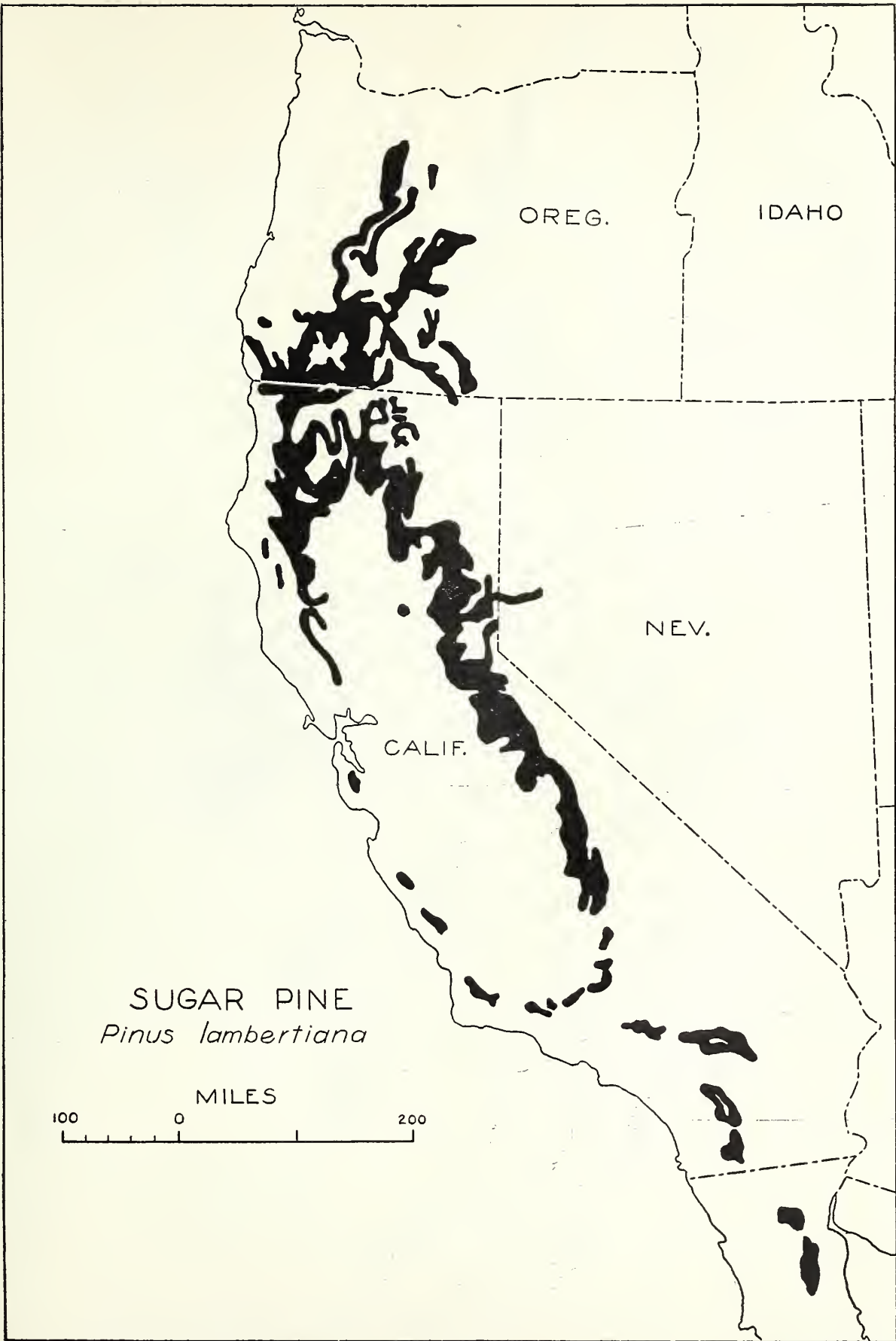


NORTHERN WHITE PINE

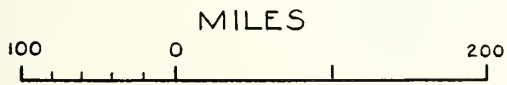
MAP 1

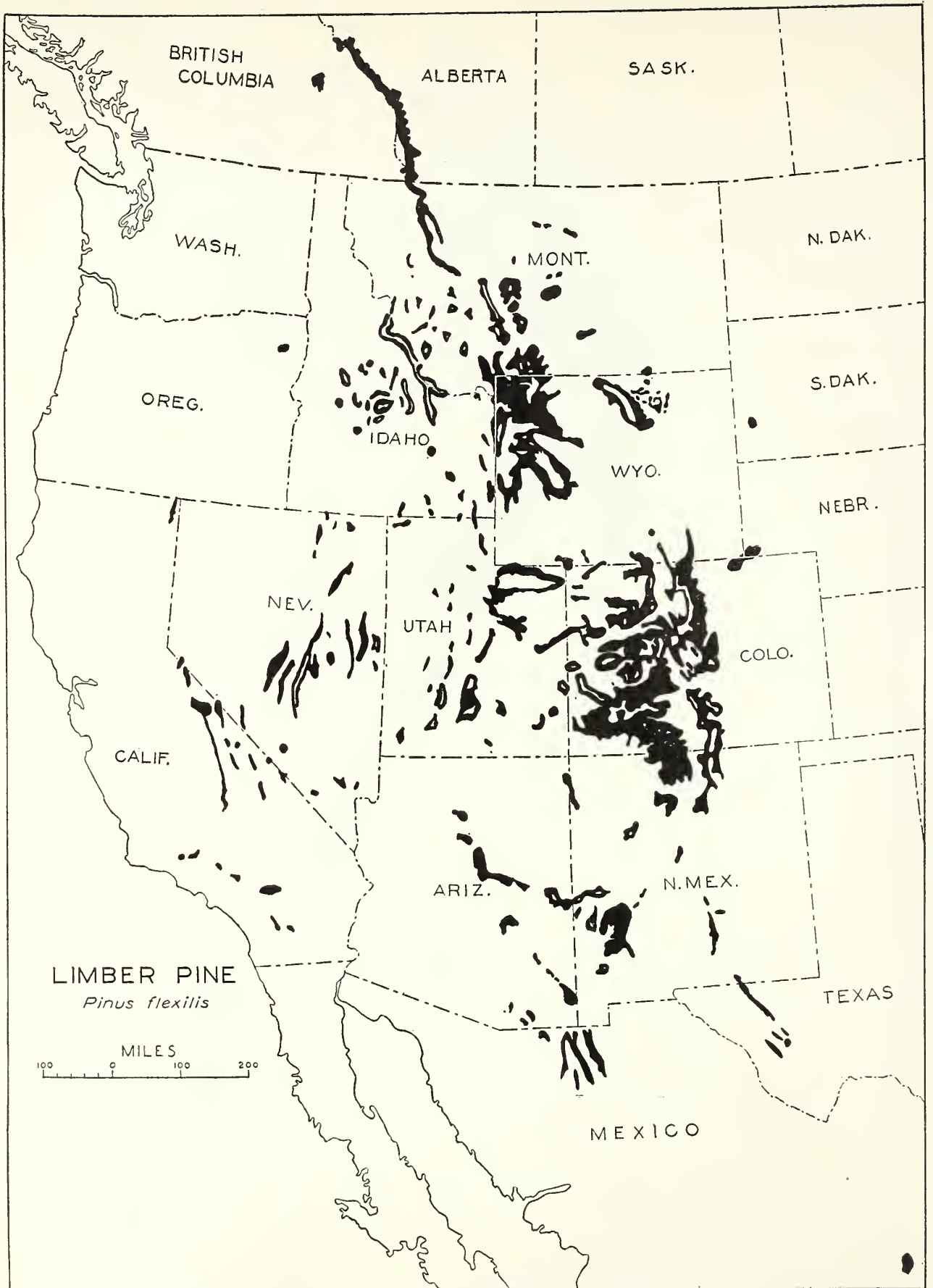
PINUS STROBUS LINNAEUS

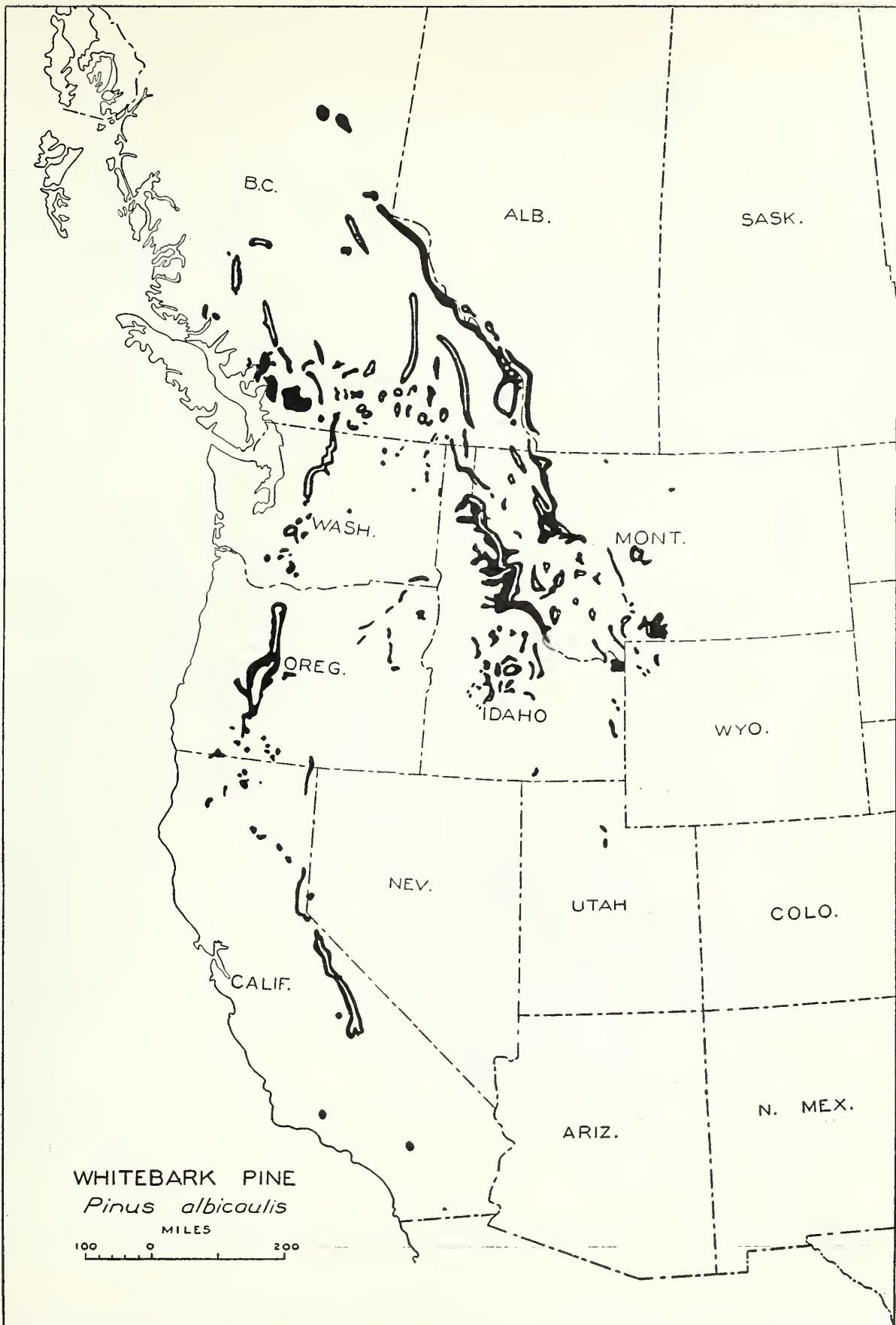


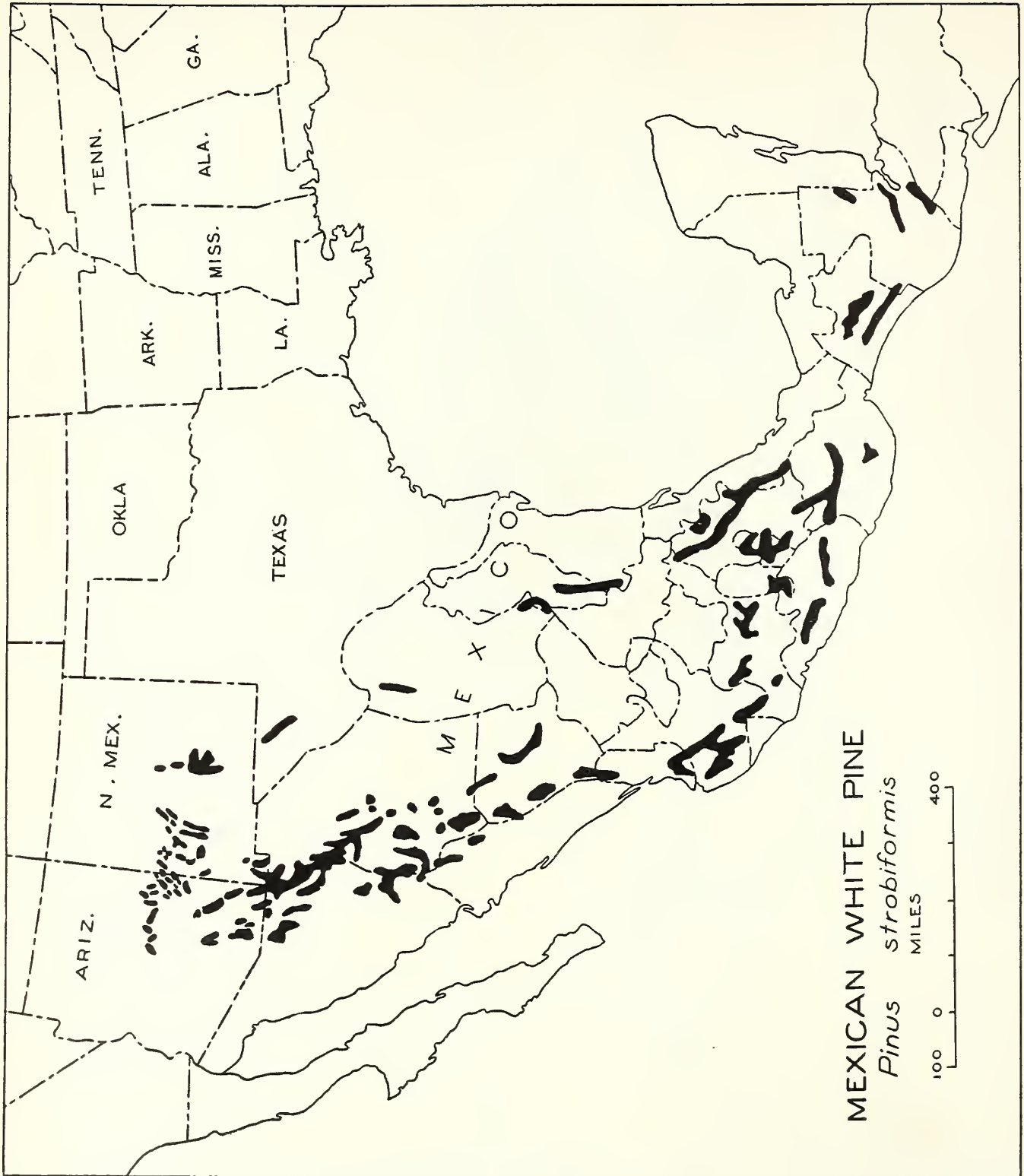


SUGAR PINE
Pinus lambertiana





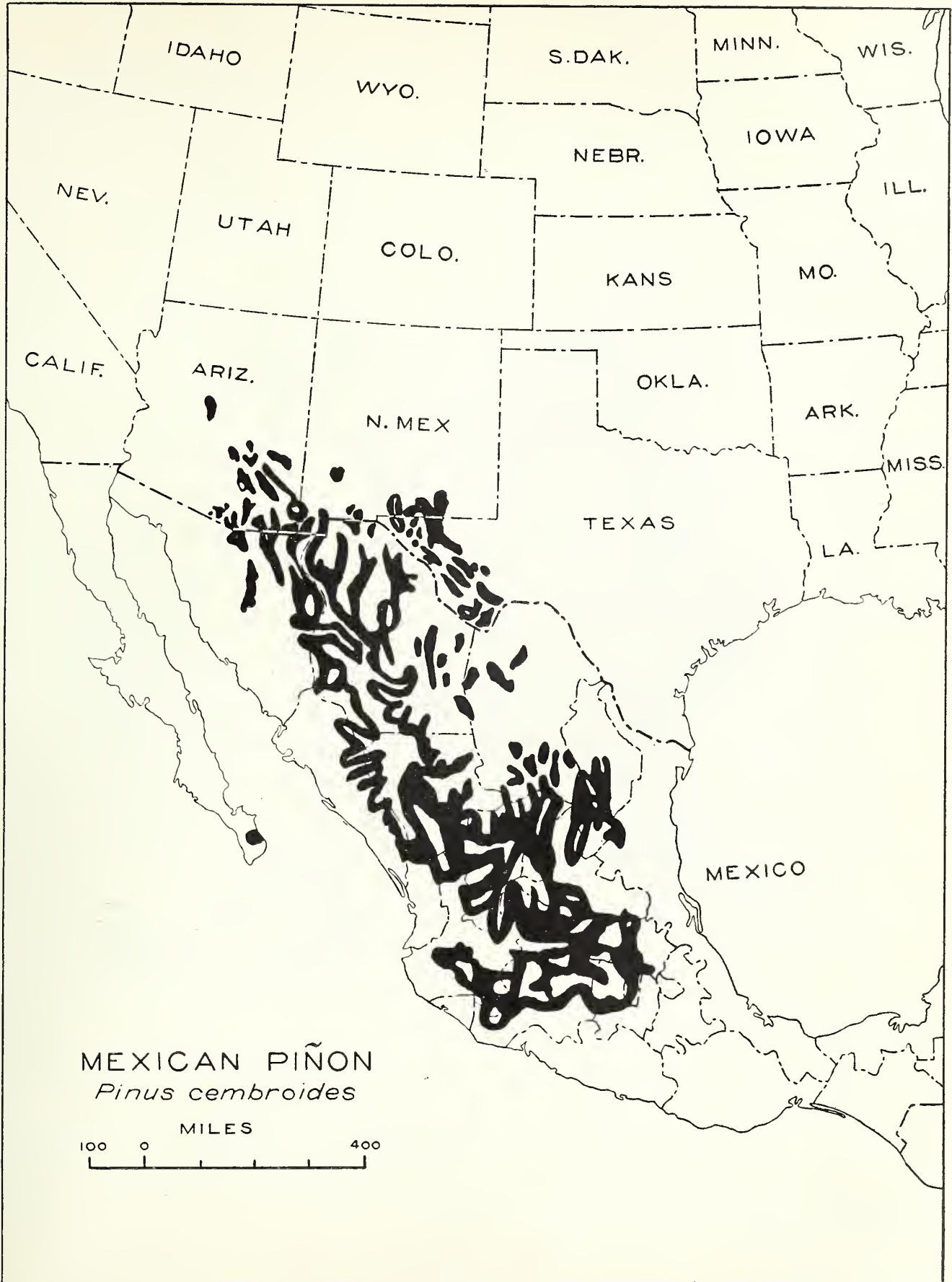




MEXICAN WHITE PINE

MAP 6

PINUS STROBIFORMIS ENGELMANN

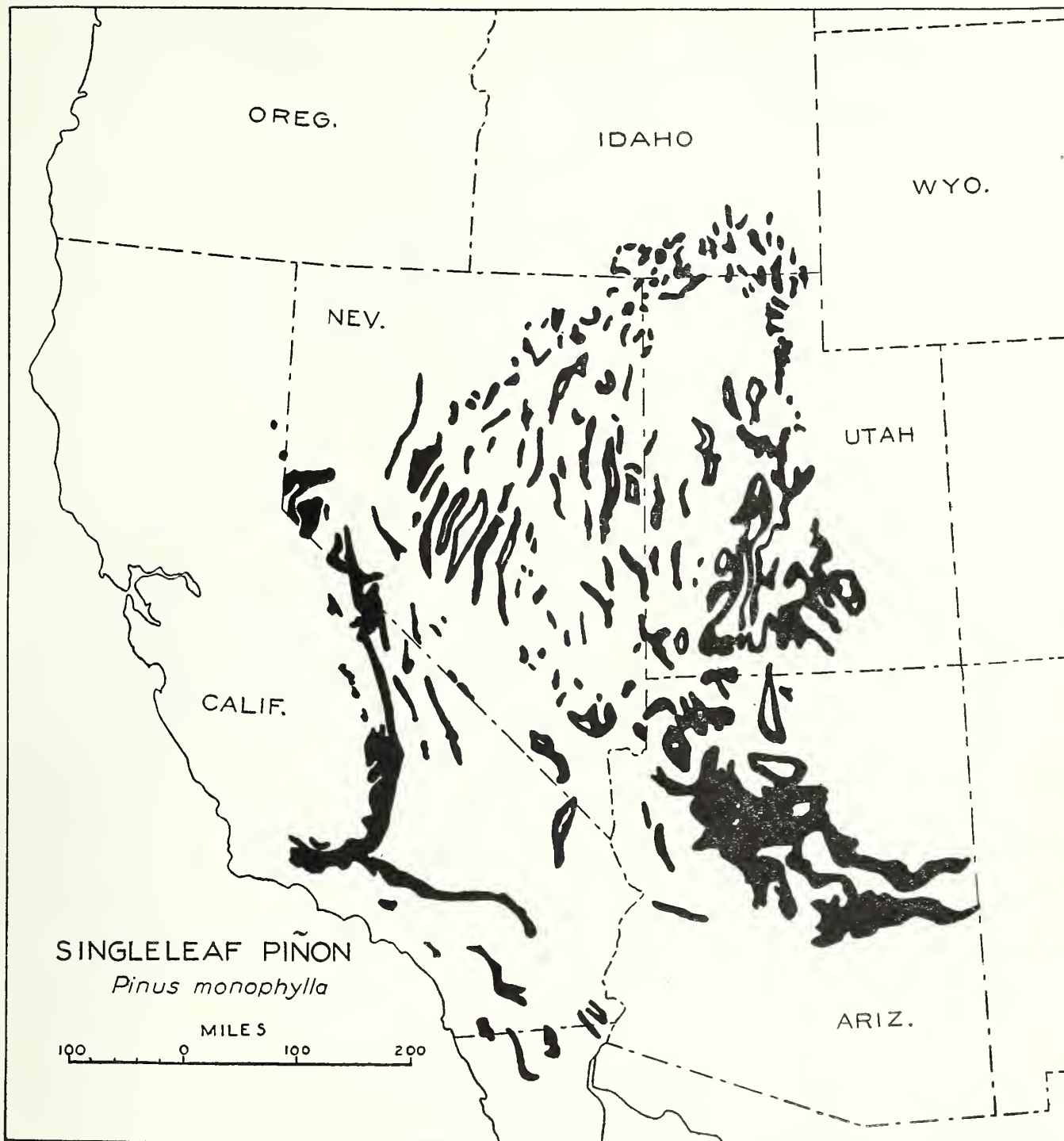




PINUS EDULIS ENGELMANN

MAP 8

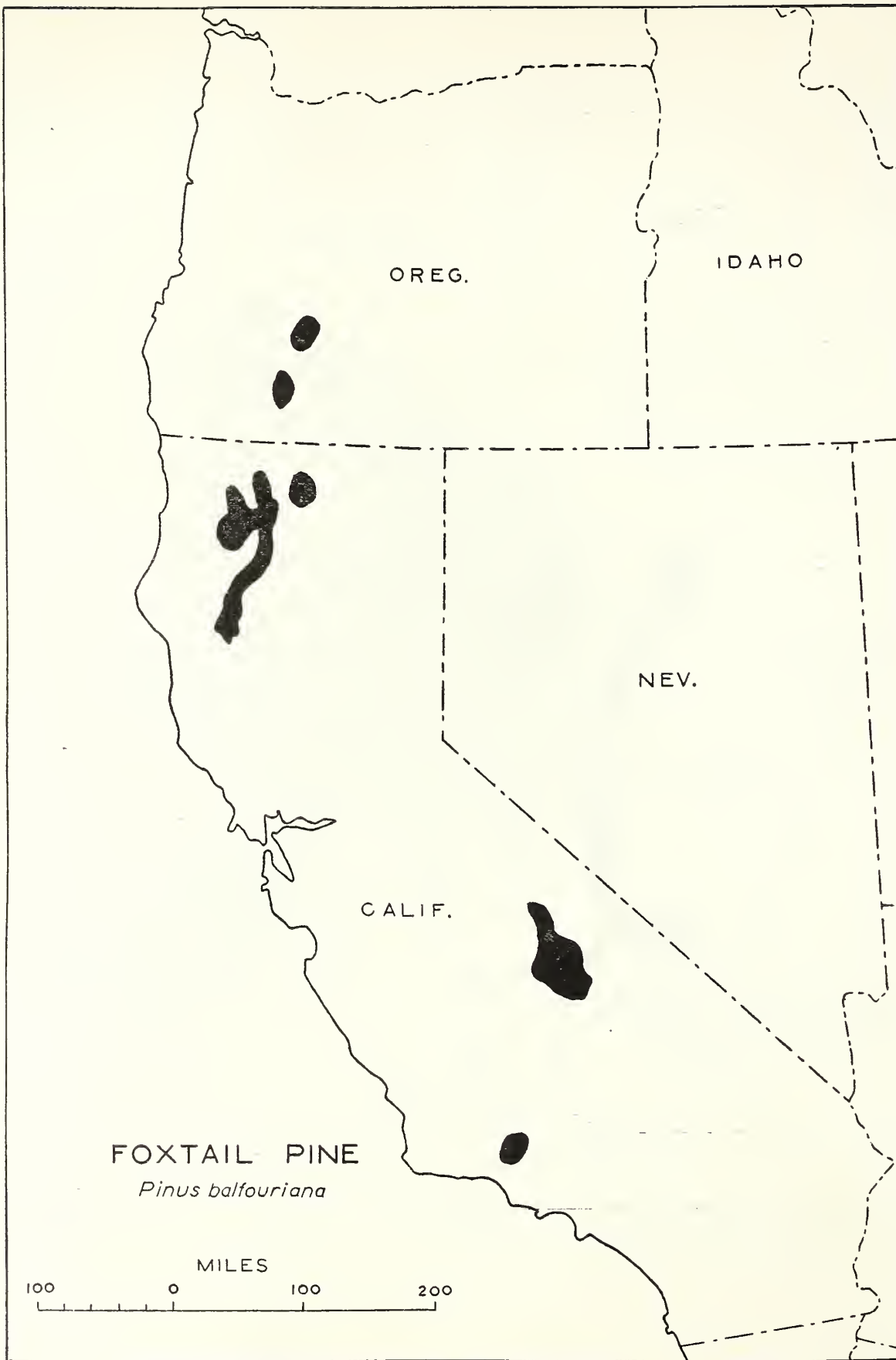
PIÑON

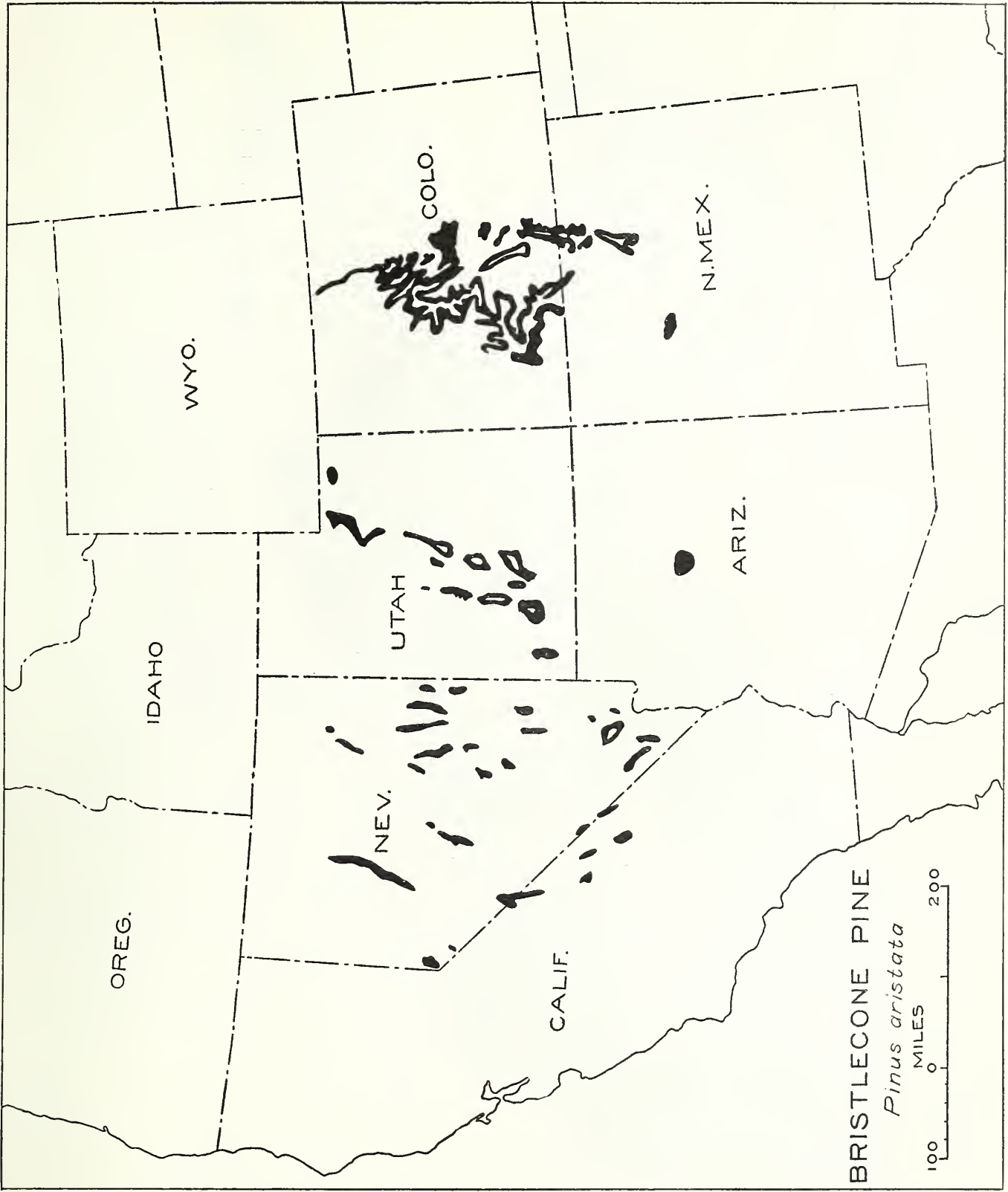


PINUS MONOPHYLLA TORREY AND FREMONT

MAP 9

SINGLELEAF PIÑON

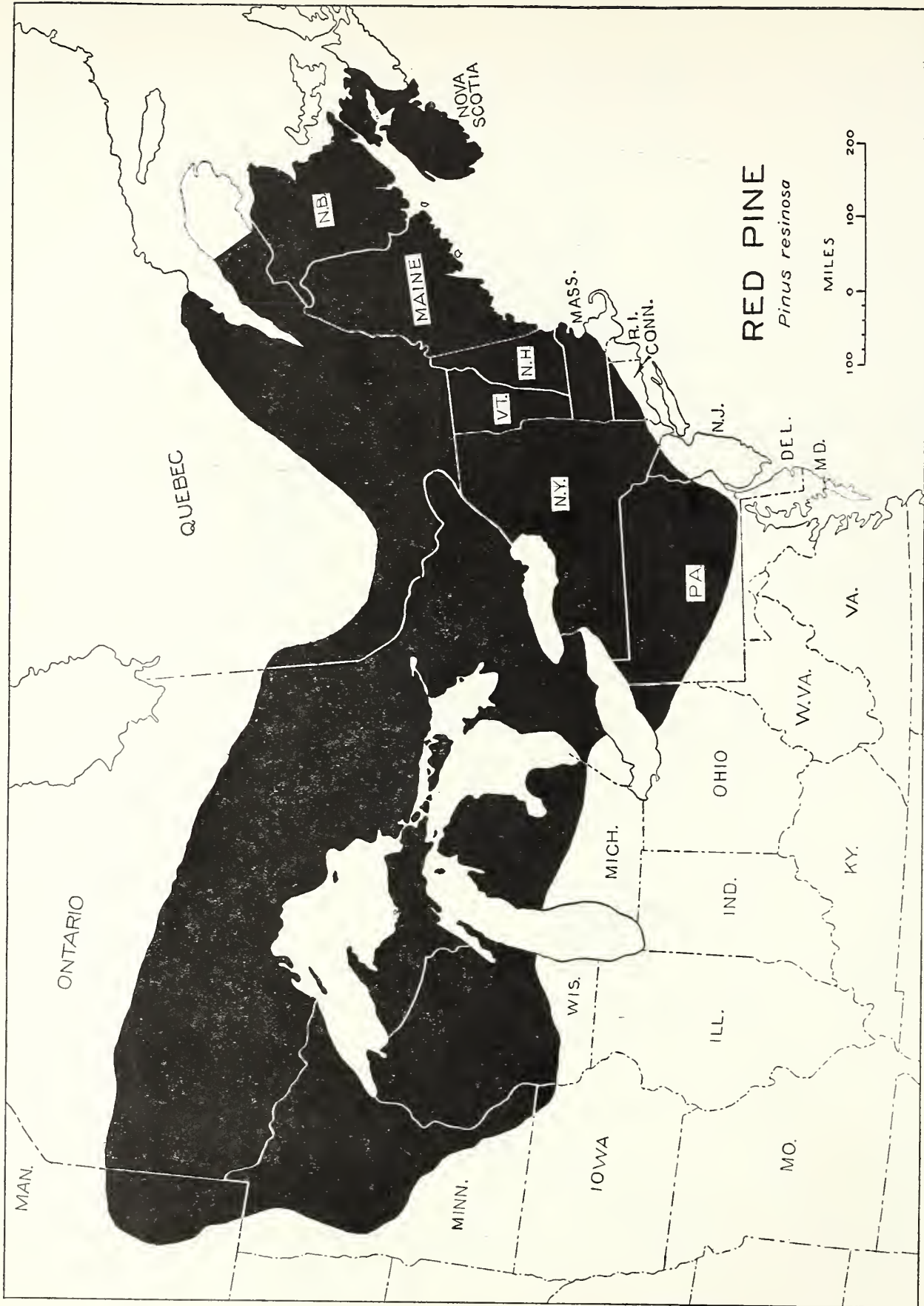




BRISTLECONE PINE

MAP 11

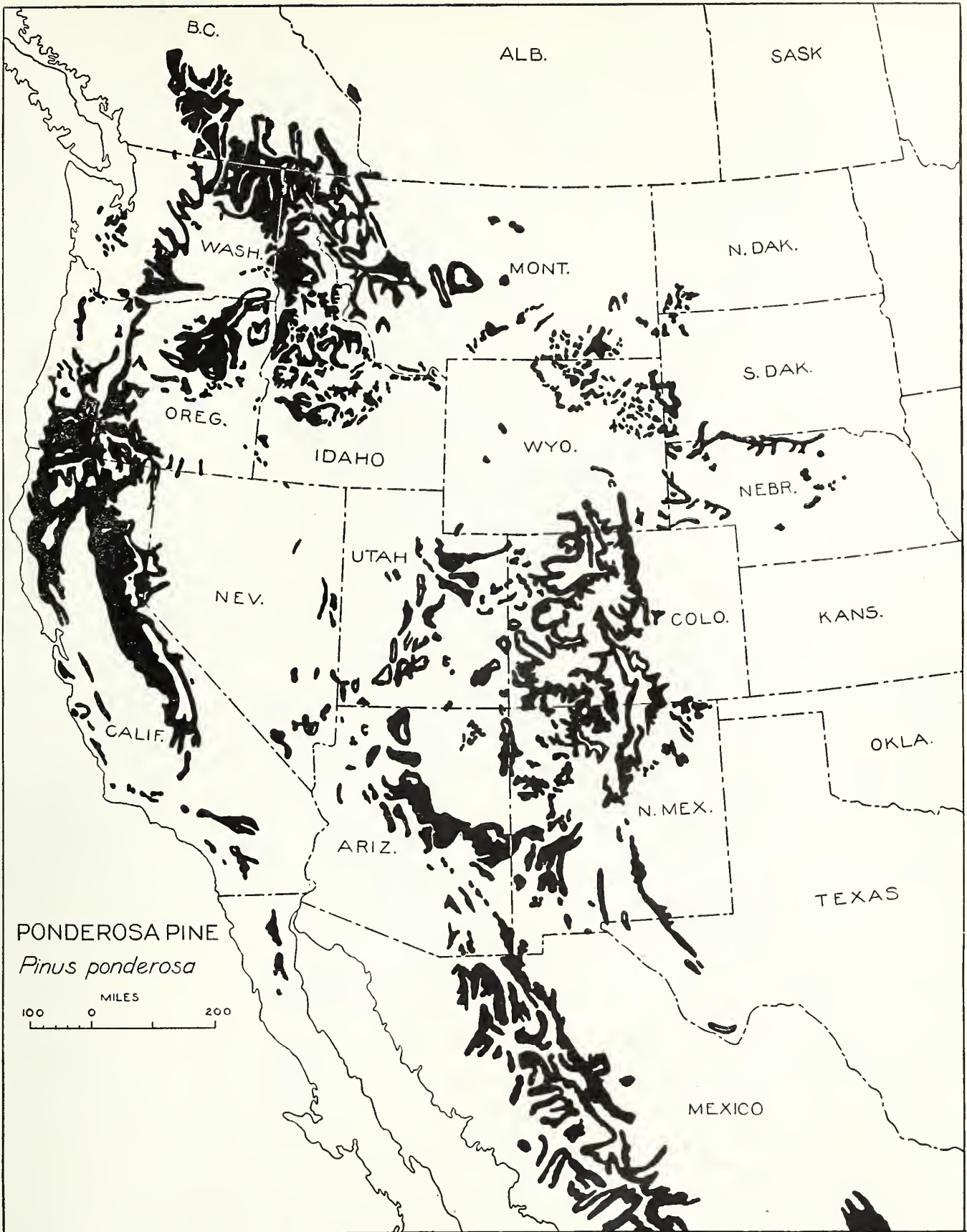
PINUS ARISTATA ENGELMANN

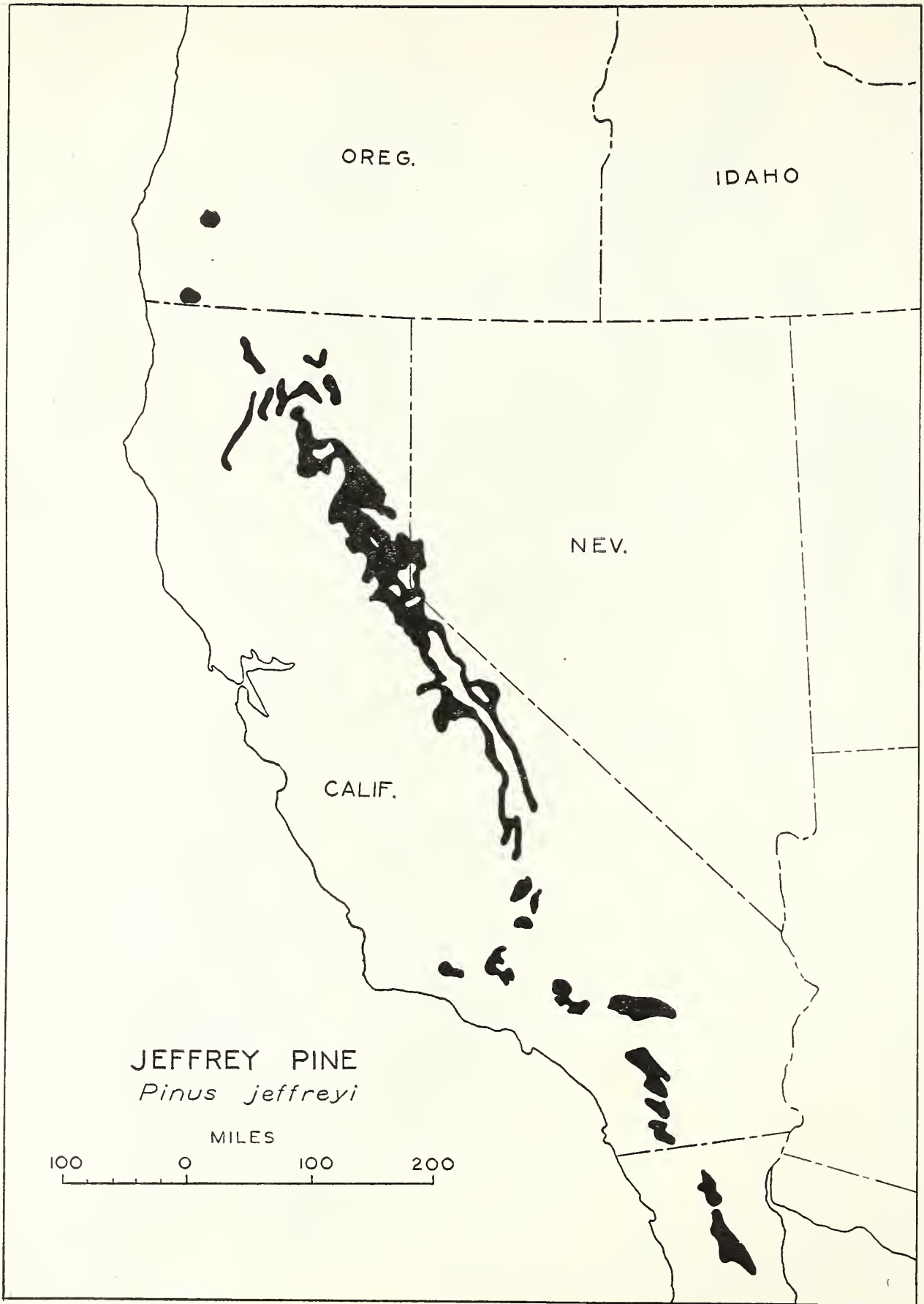


MAP 12

PINUS RESINOSA AITON

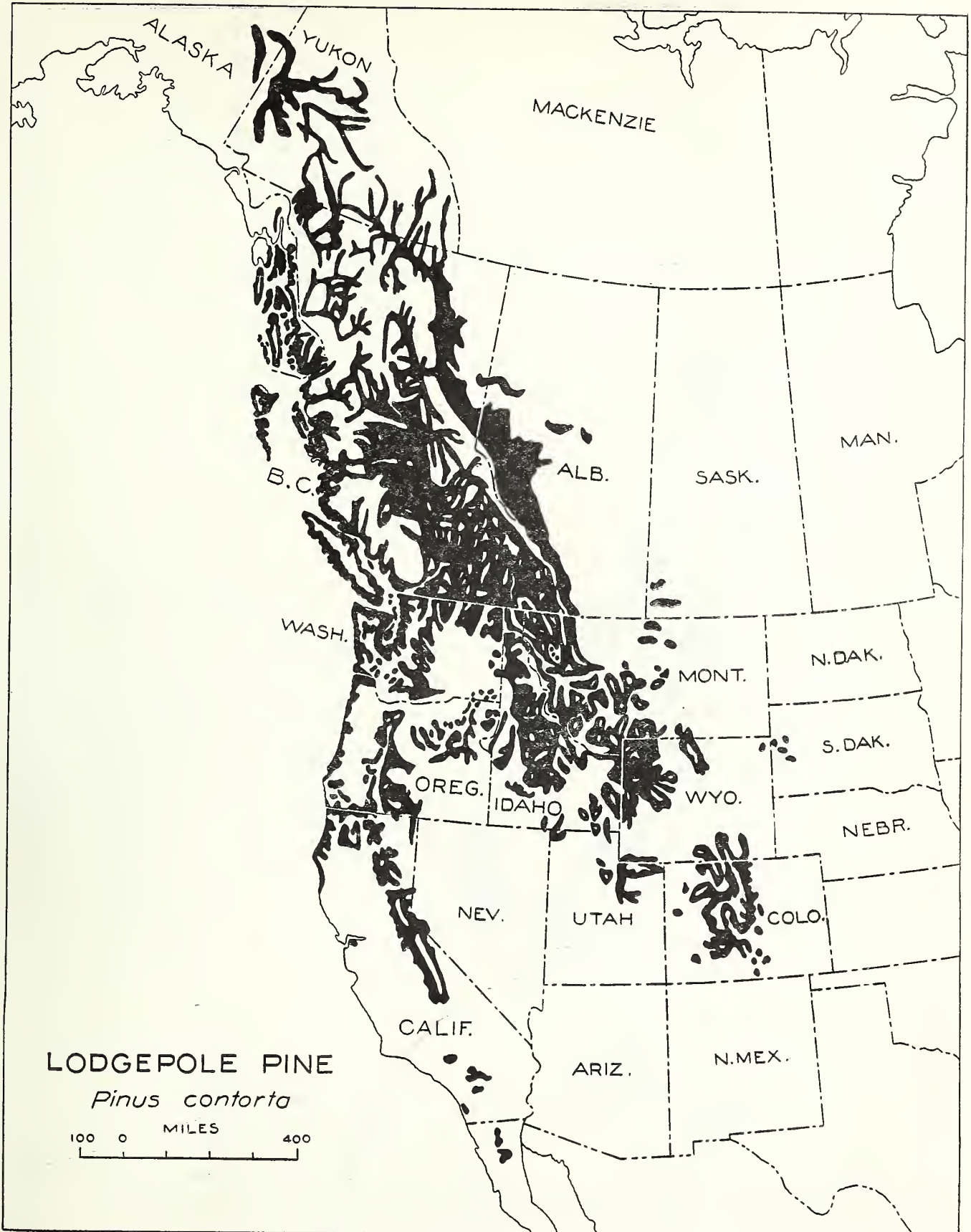
RED PINE





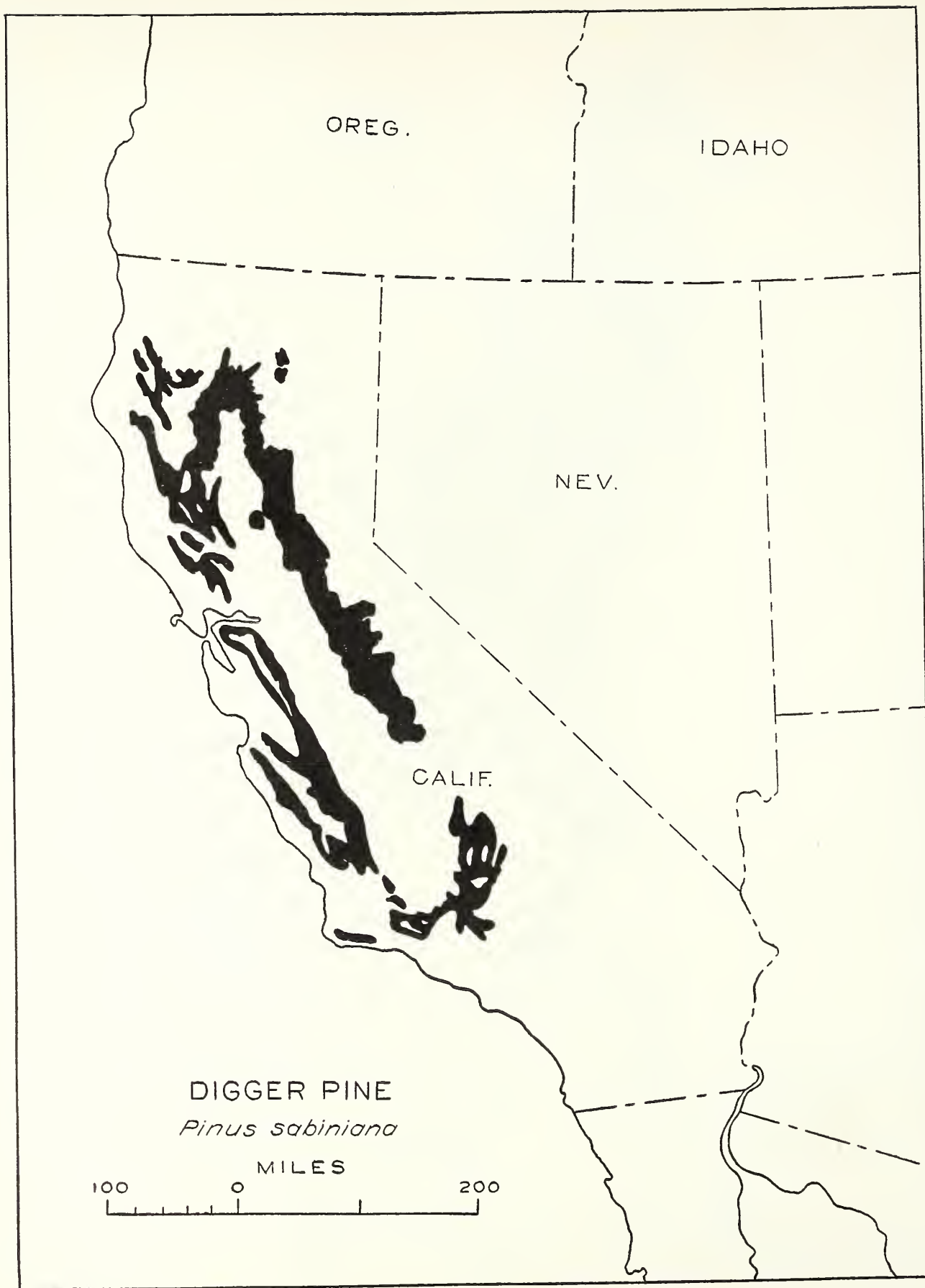
JEFFREY PINE
Pinus jeffreyi

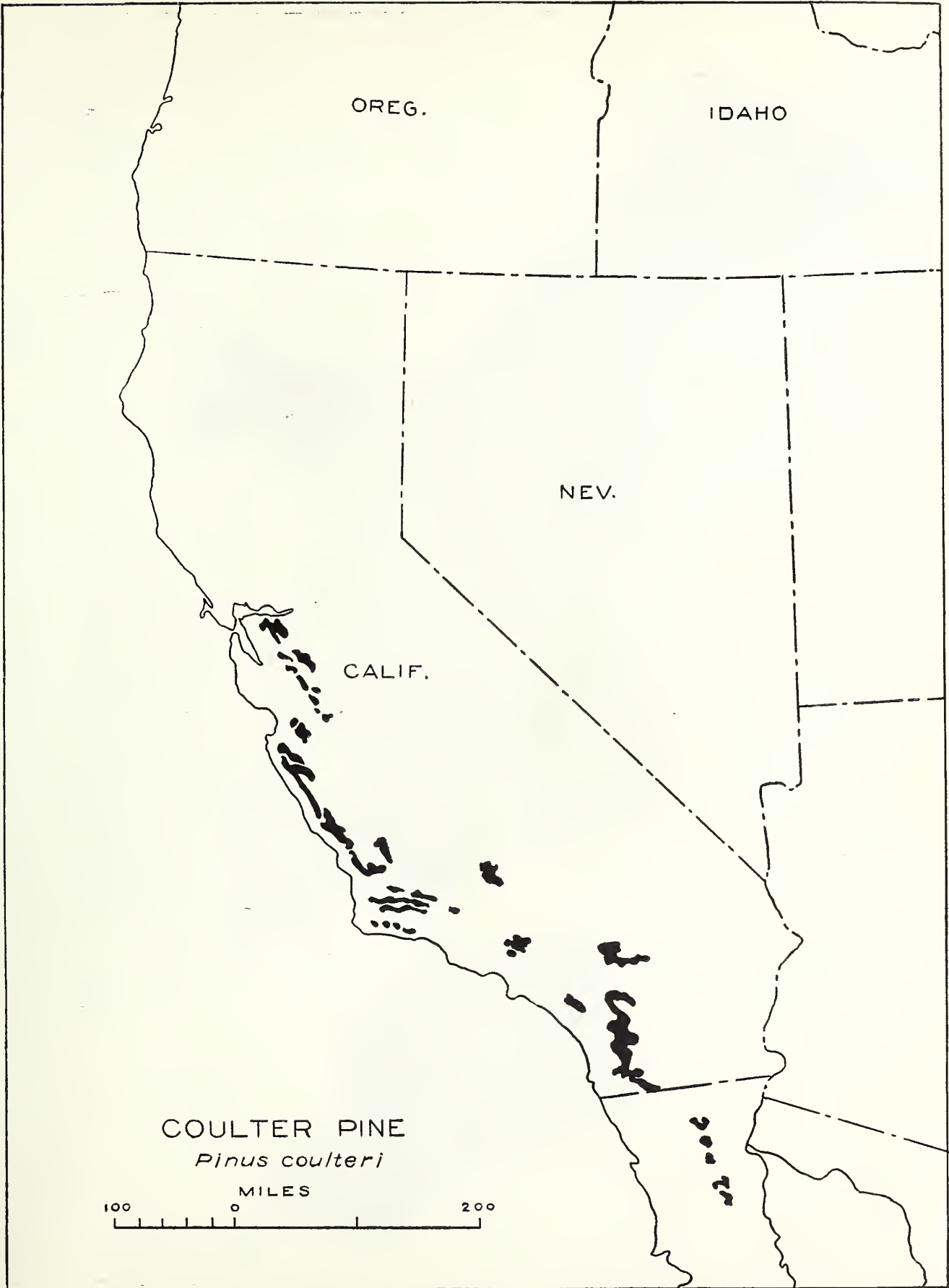
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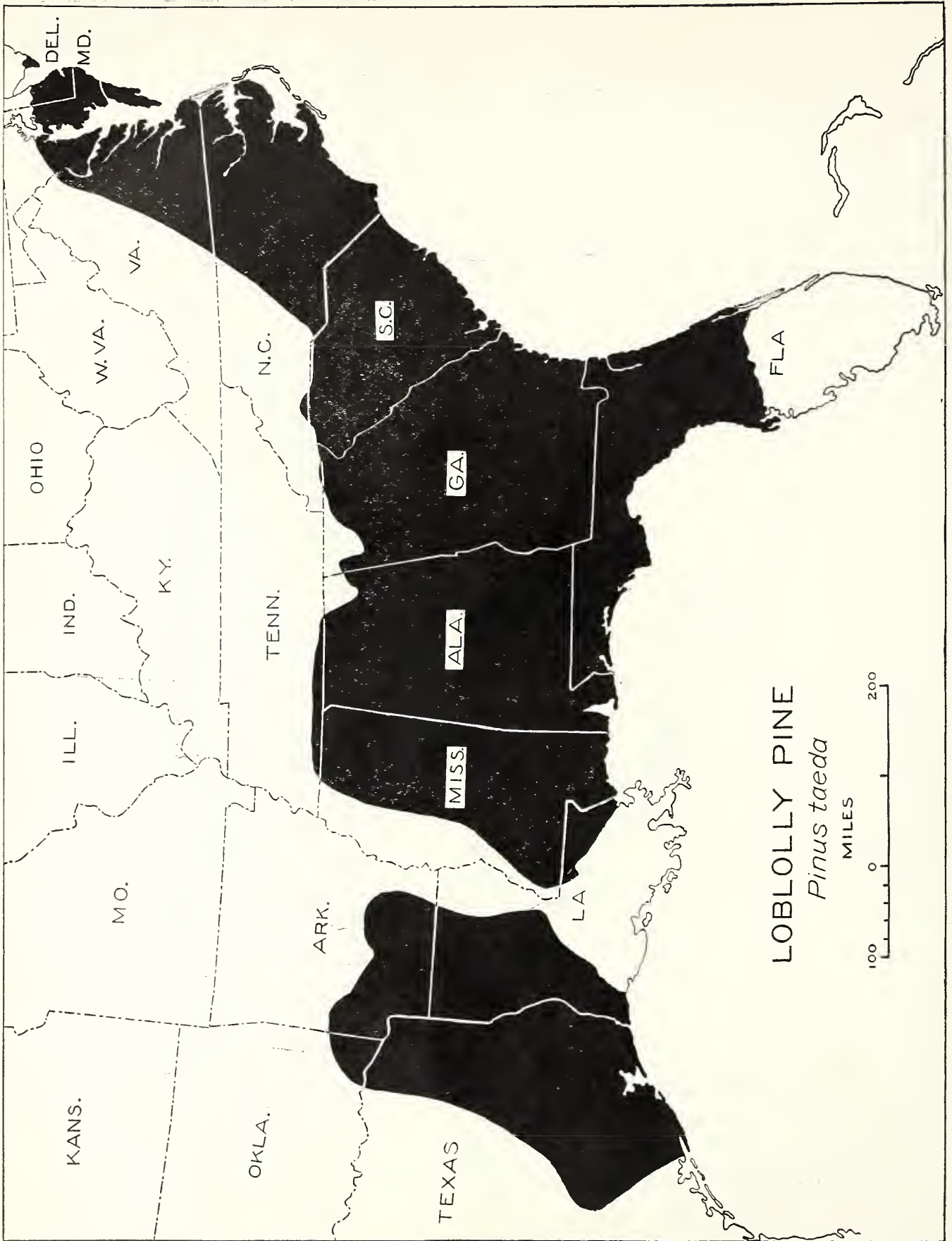


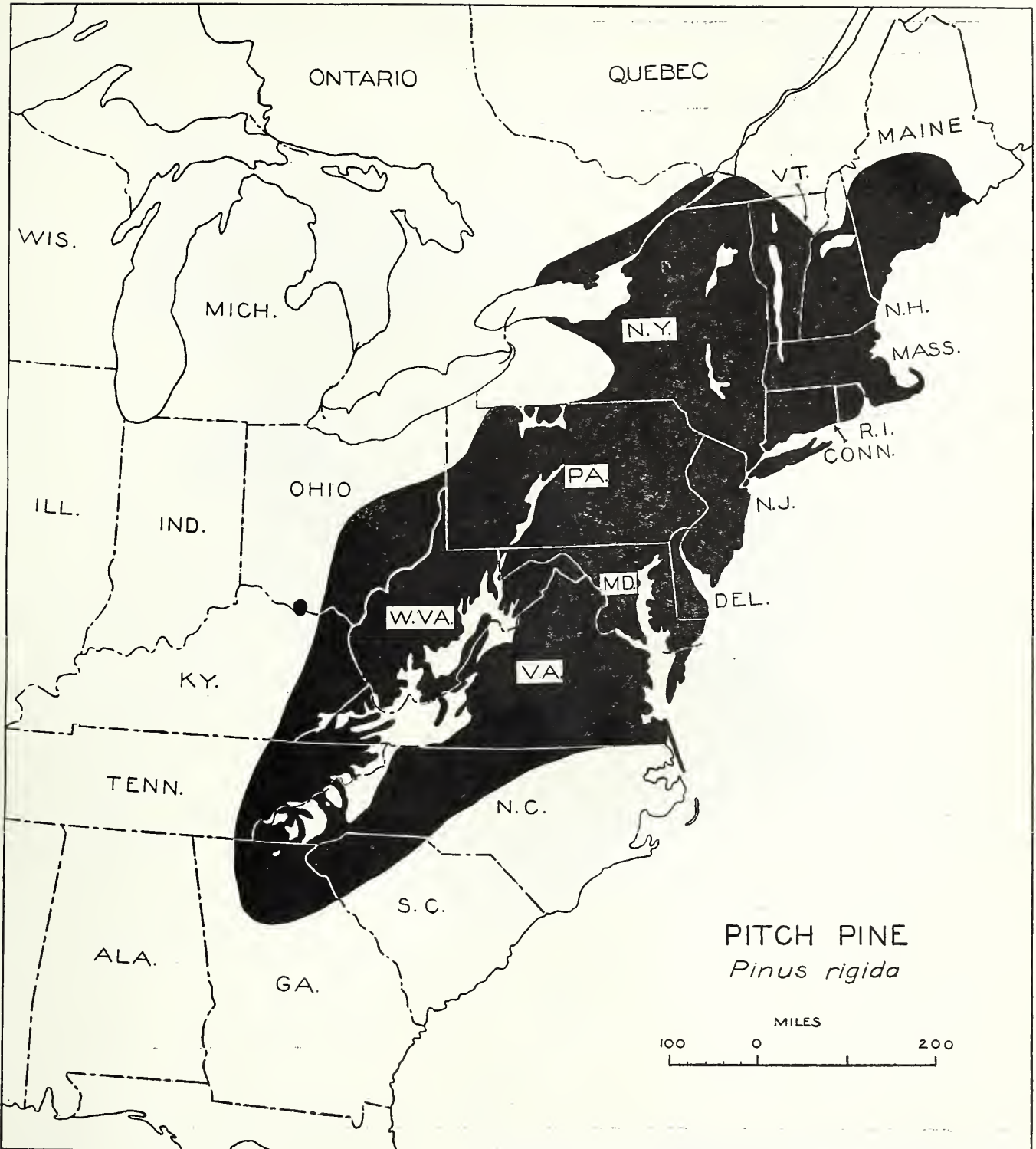
LOGEPOLE PINE
Pinus contorta

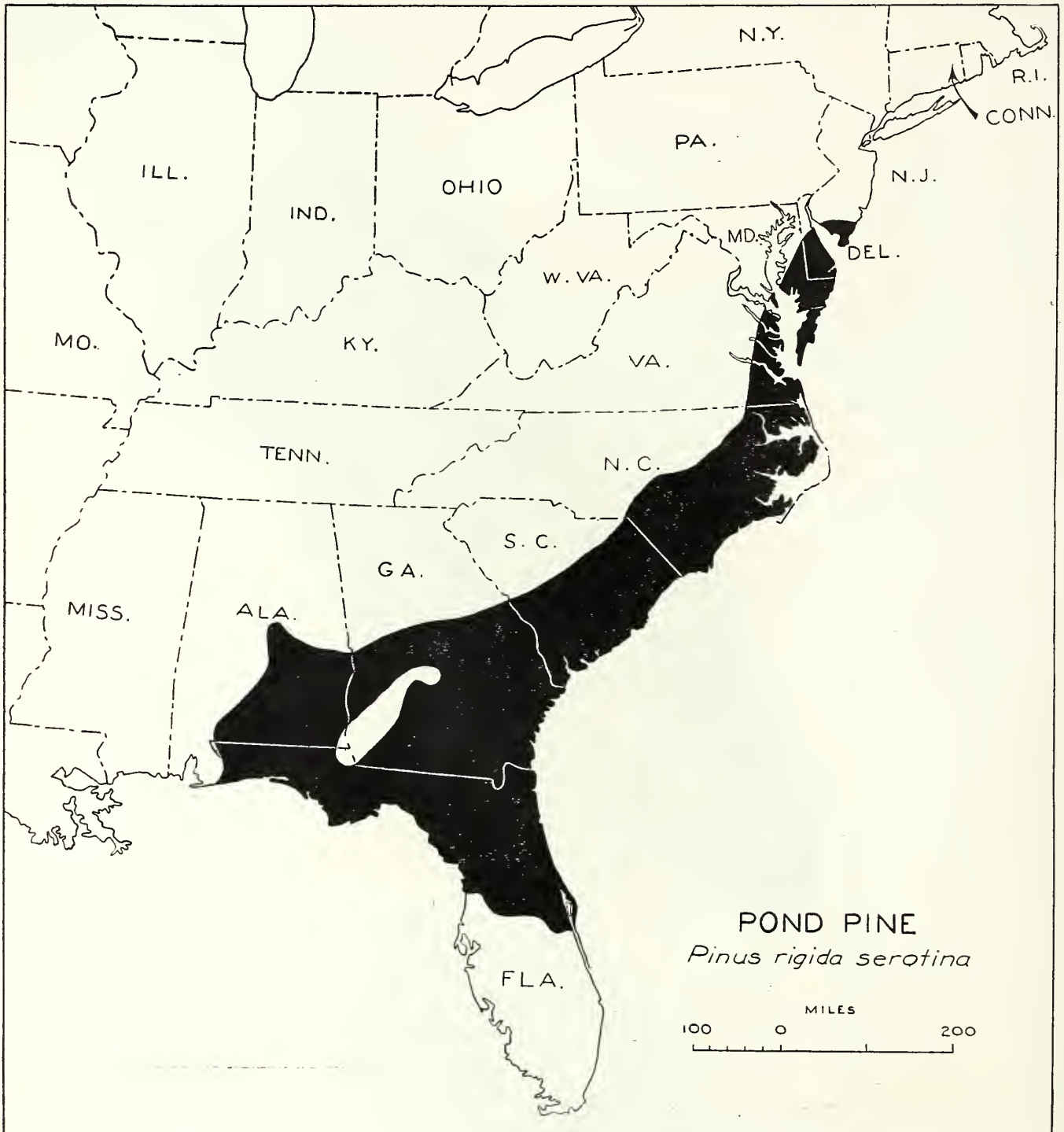
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MILES







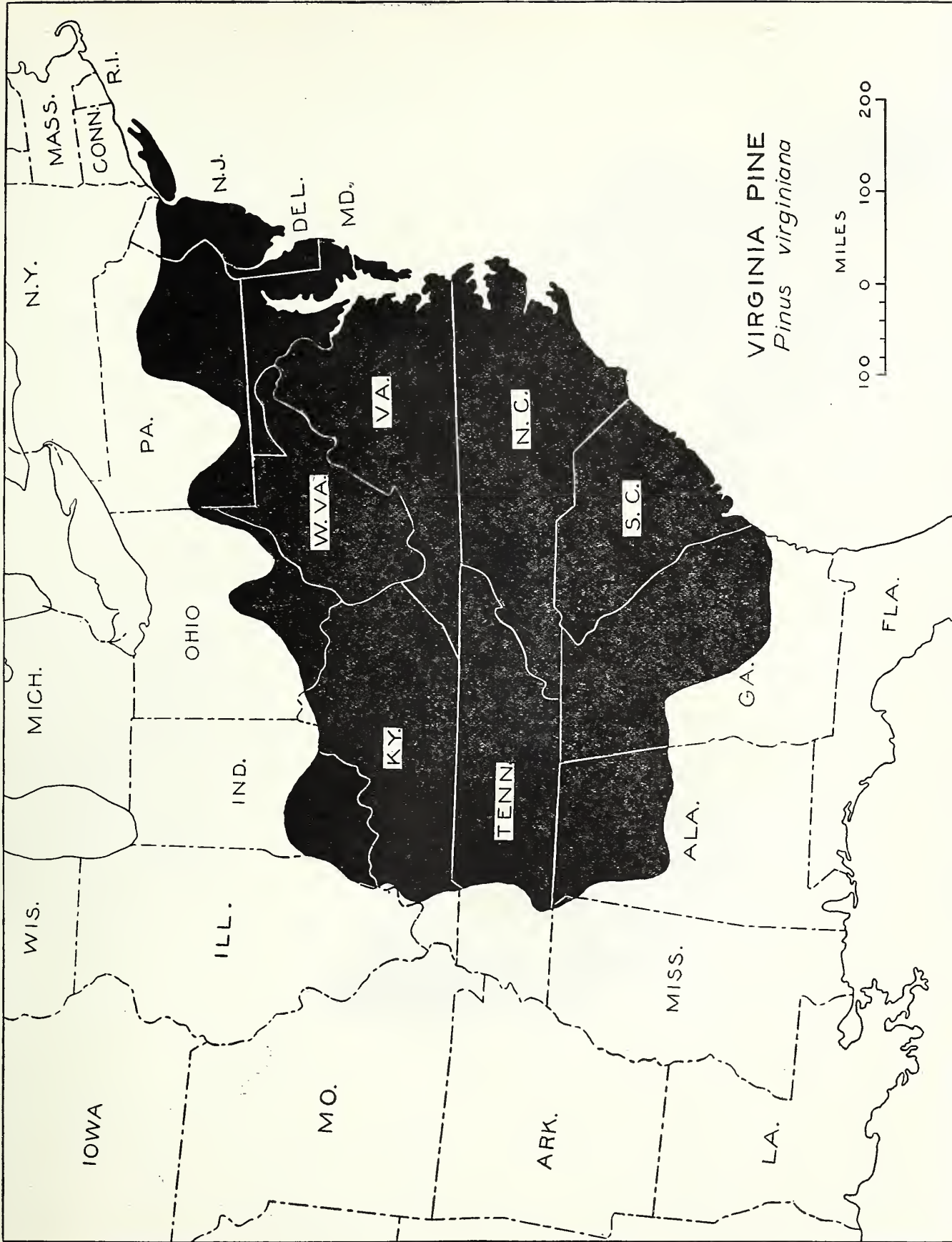




PINUS RIGIDA SEROTINA (MICHAUX) LOUDON

MAP 20

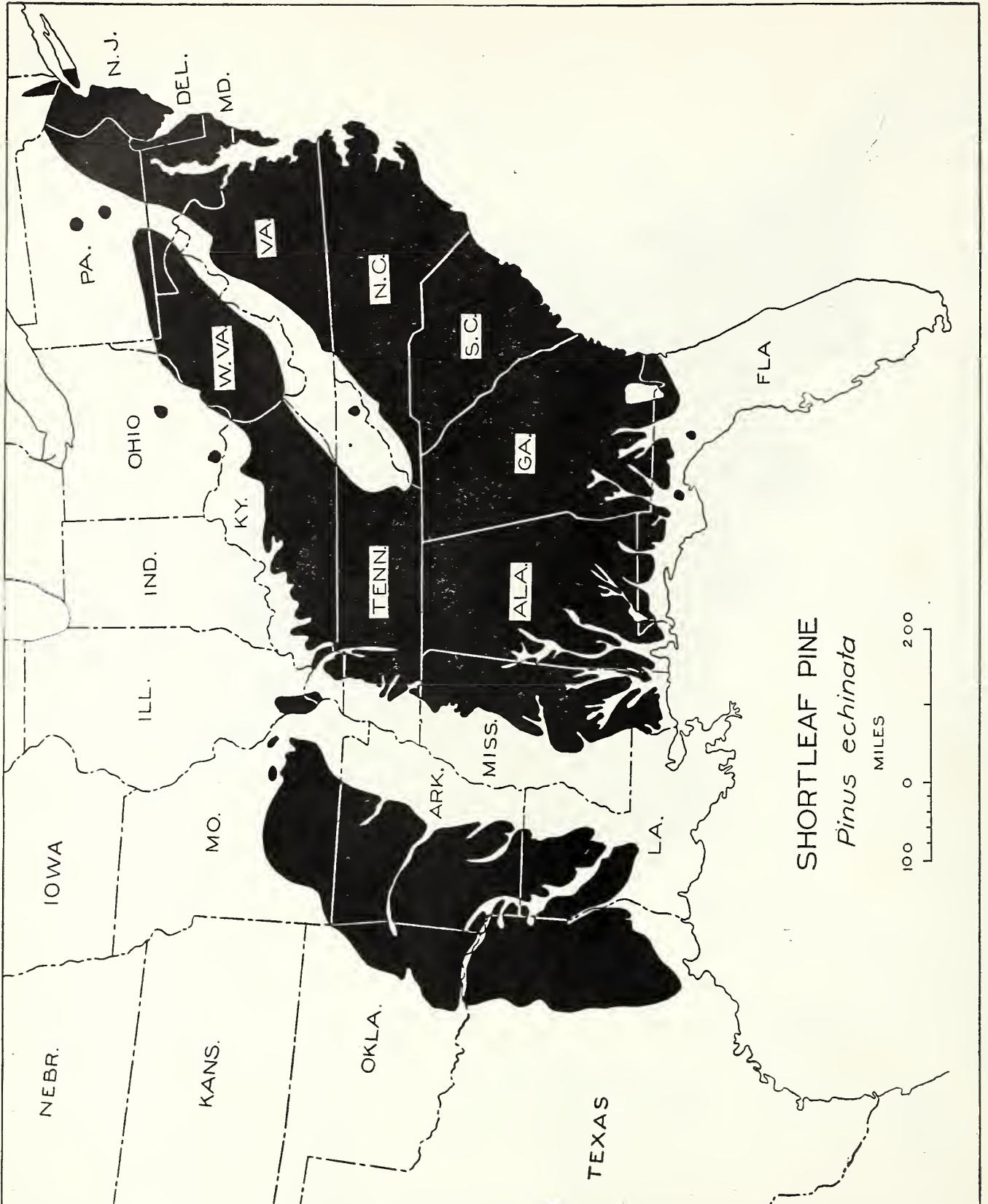
POND PINE

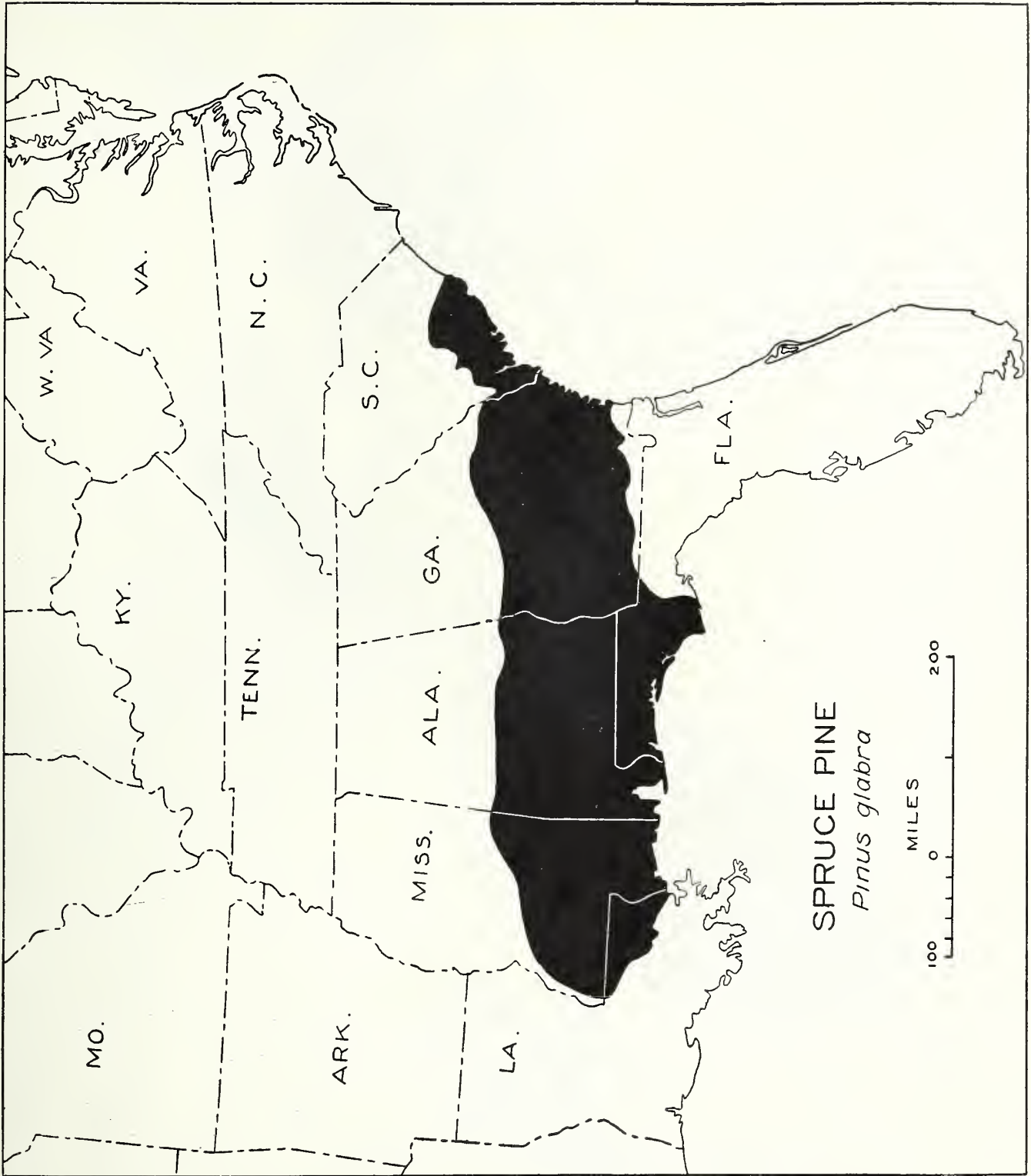


VIRGINIA PINE

MAP 21

PINUS VIRGINIANA MILLER



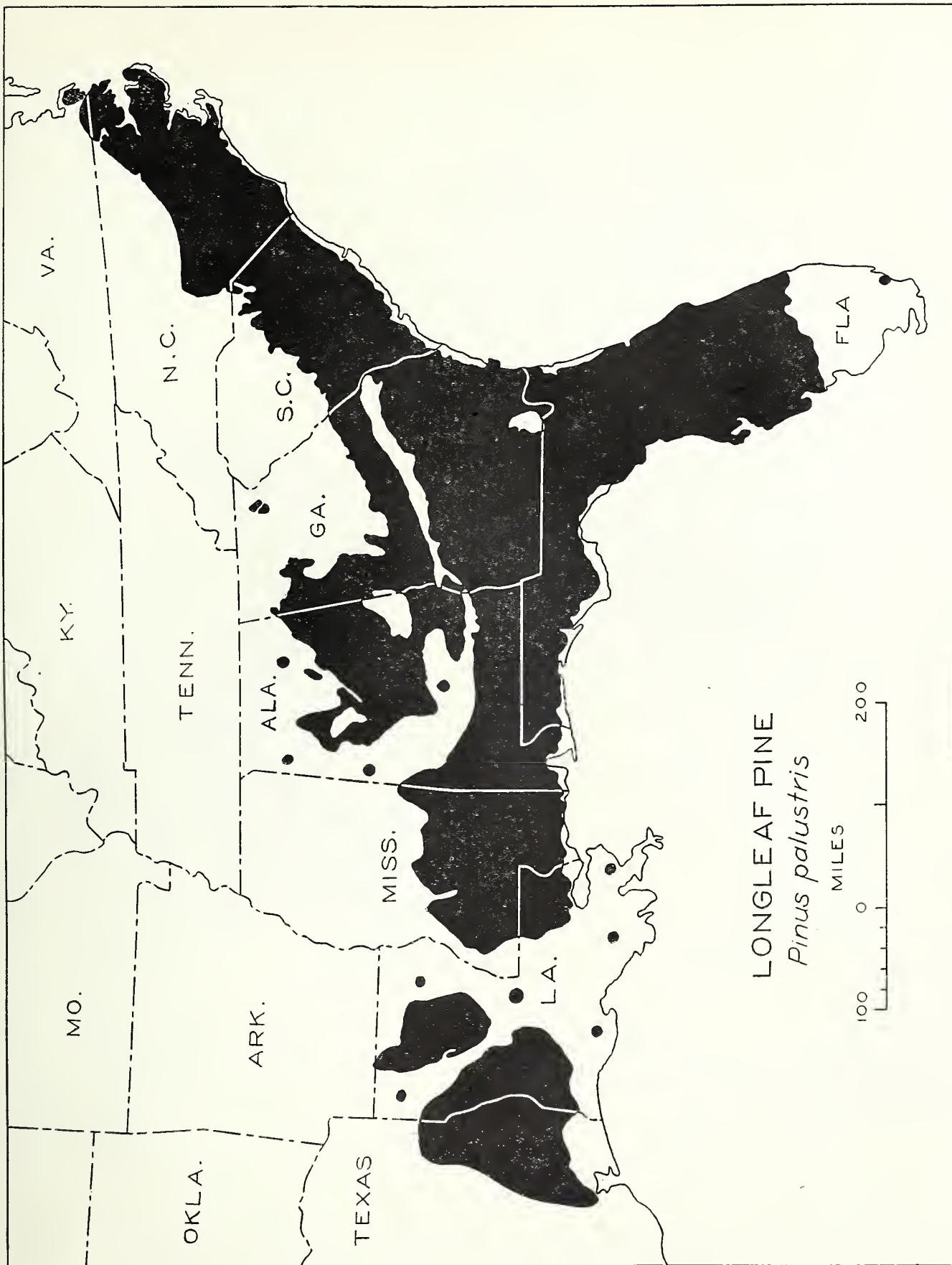


SPRUCE PINE

MAP 23

PINUS GLABRA WALTER





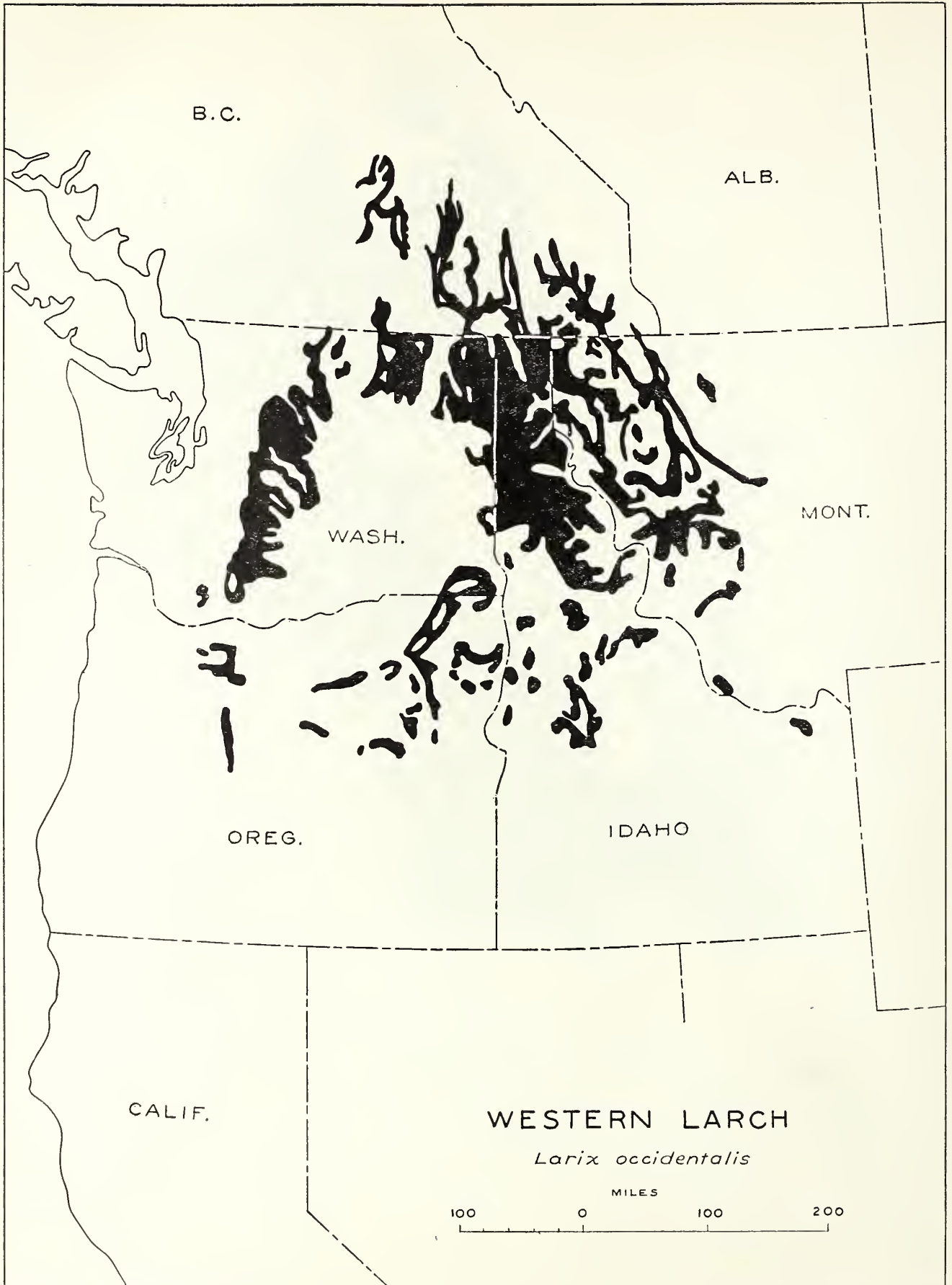
LONGLEAF PINE

MAP 25

PINUS PALUSTRIS MILLER

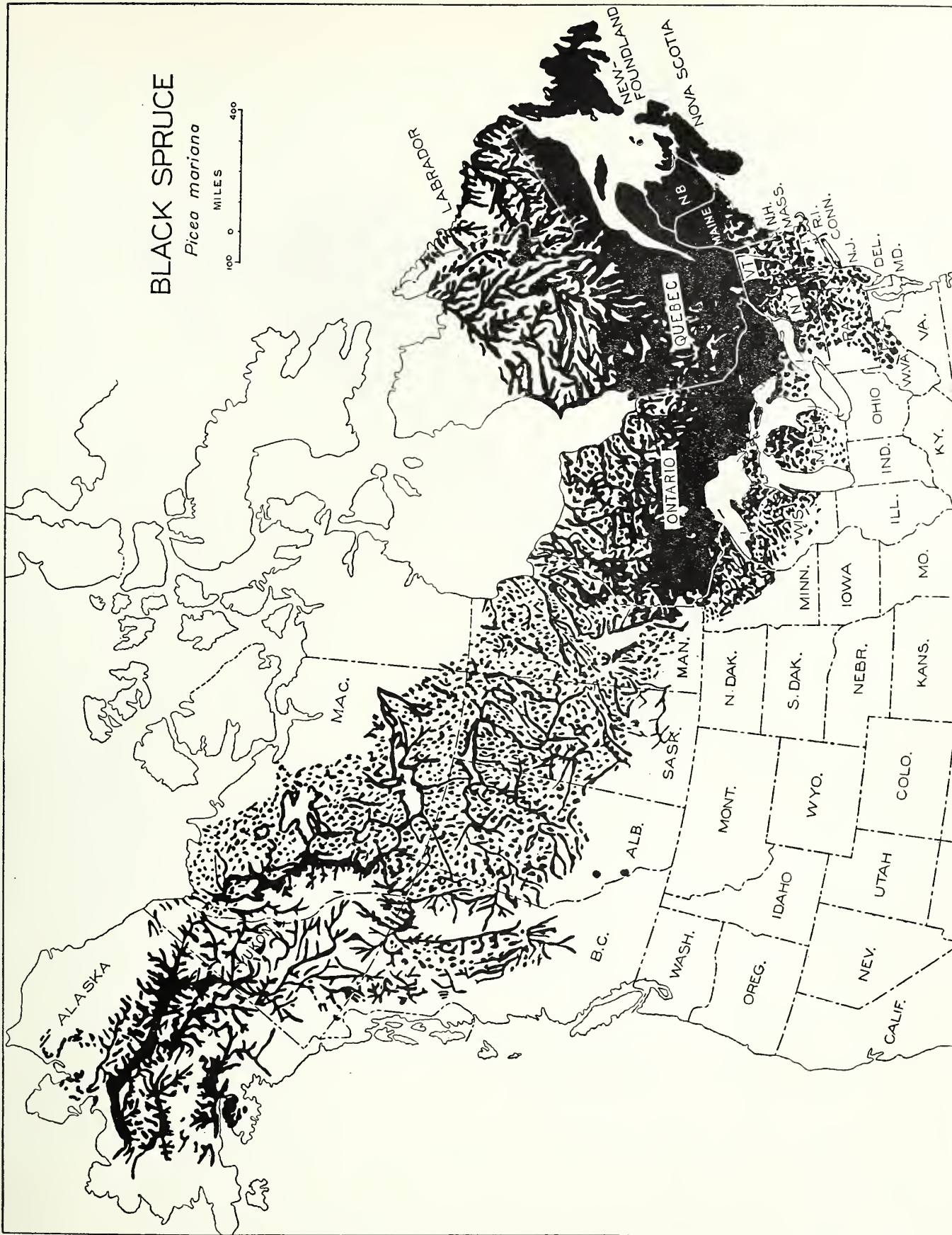
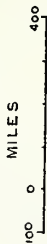


SLASH PINE
Pinus caribaea



BLACK SPRUCE

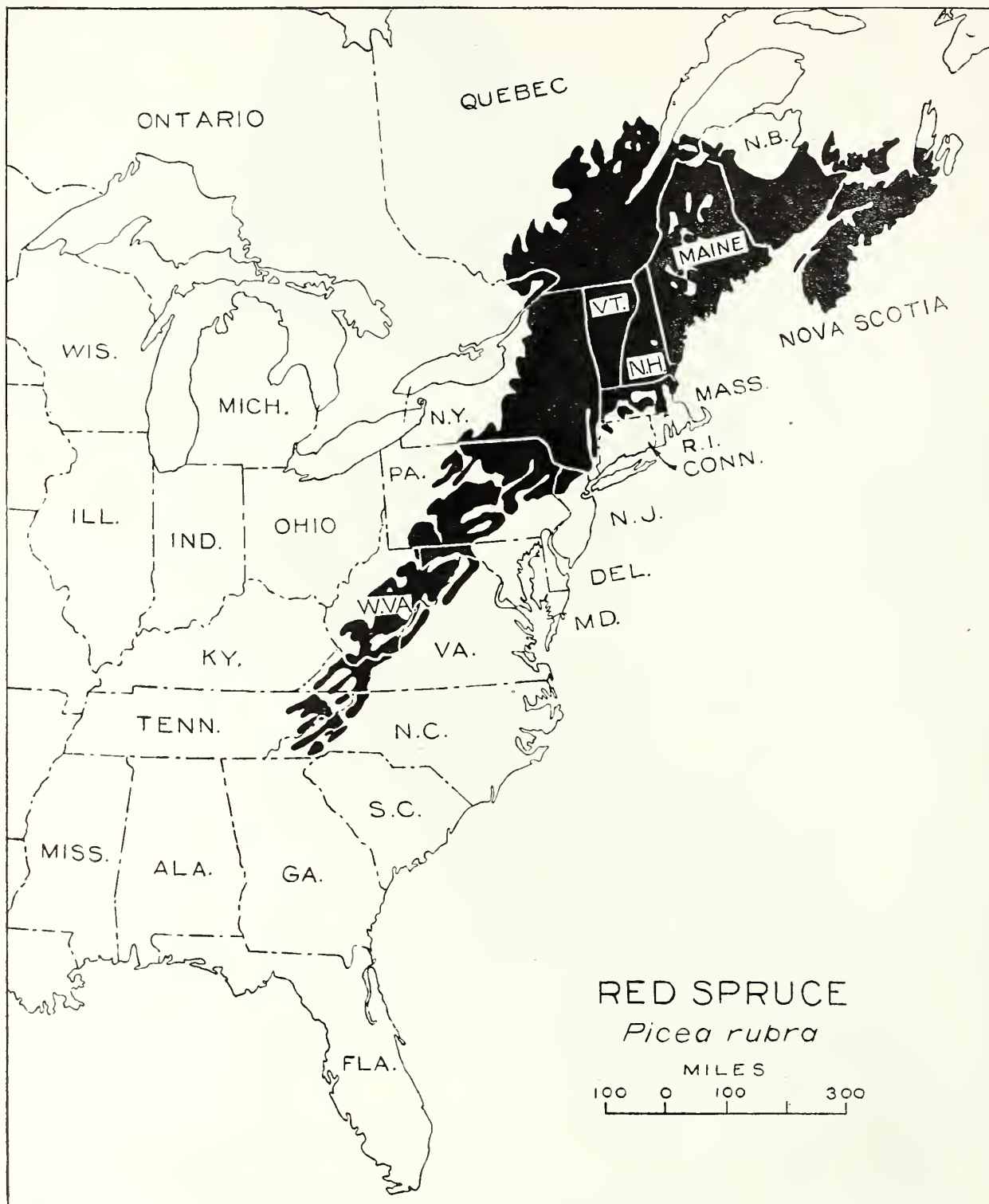
Picea mariana



MAP 29

PICEA MARIANA (MILLER), BRITTON, STERNS, AND POGGENBERG

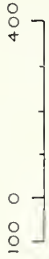
BLACK SPRUCE



WHITE SPRUCE

Picea glauca

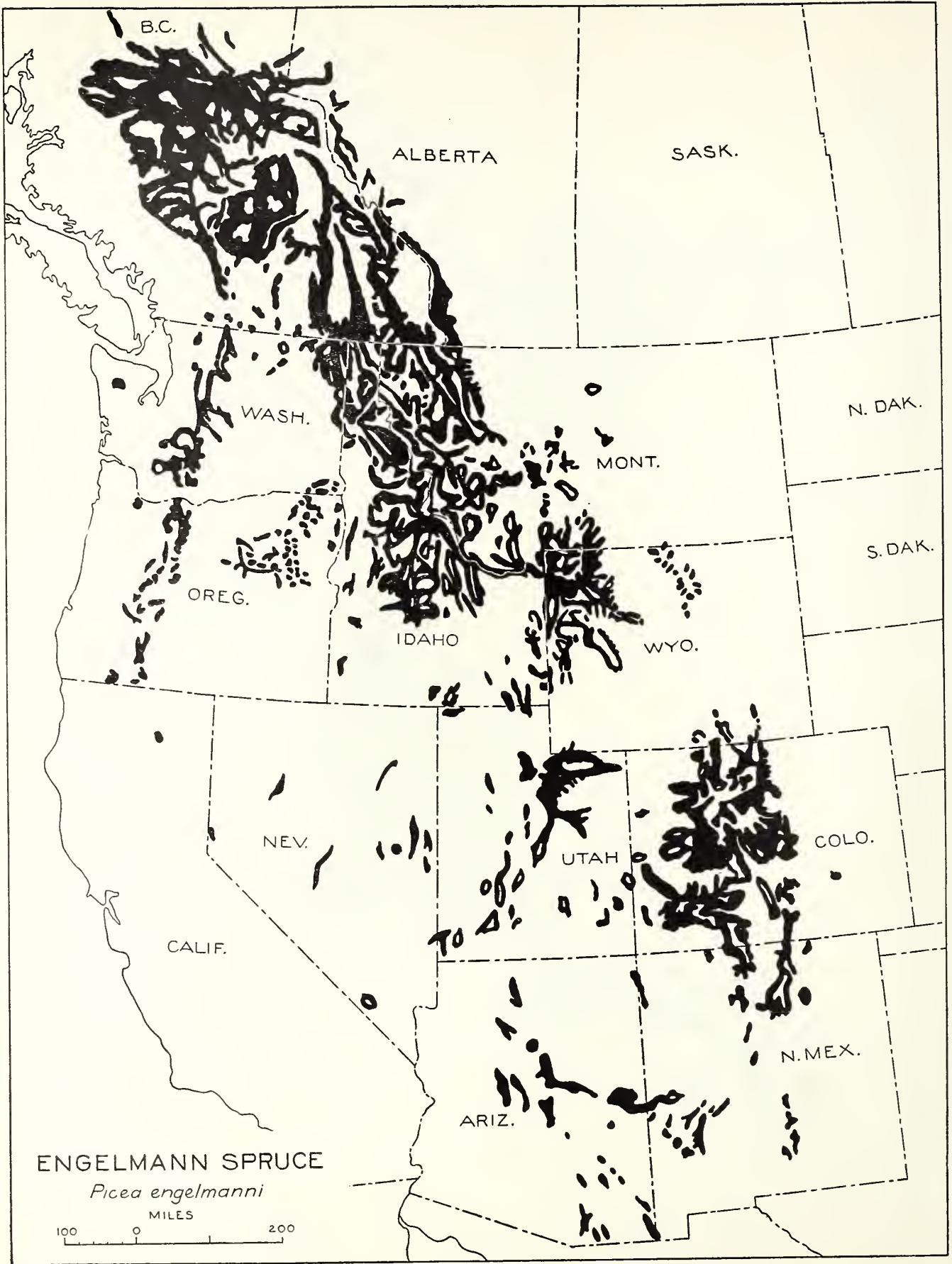
MILES

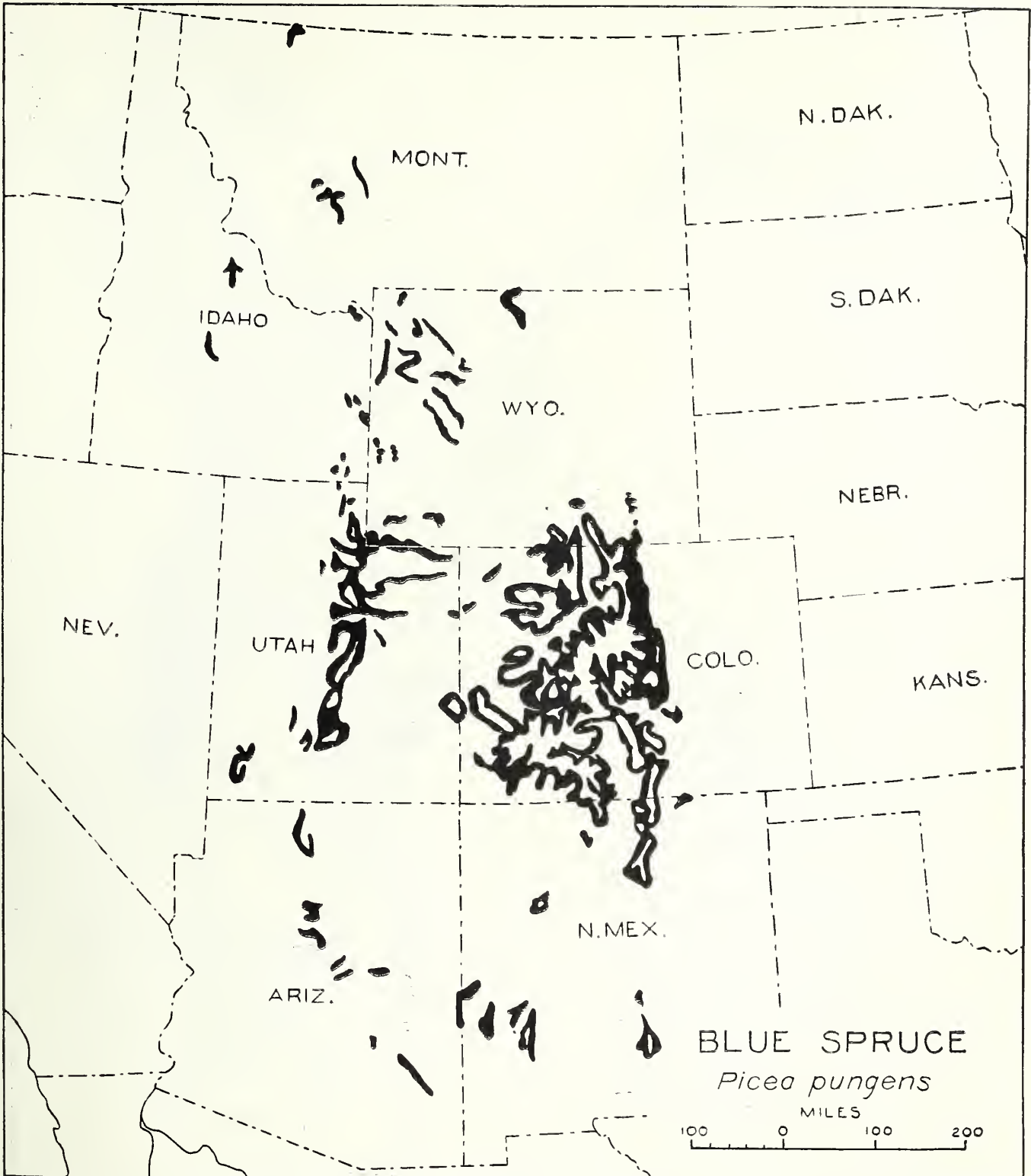


WHITE SPRUCE

MAP 31

PICEA GLAUCA (MOENCH) VOSS

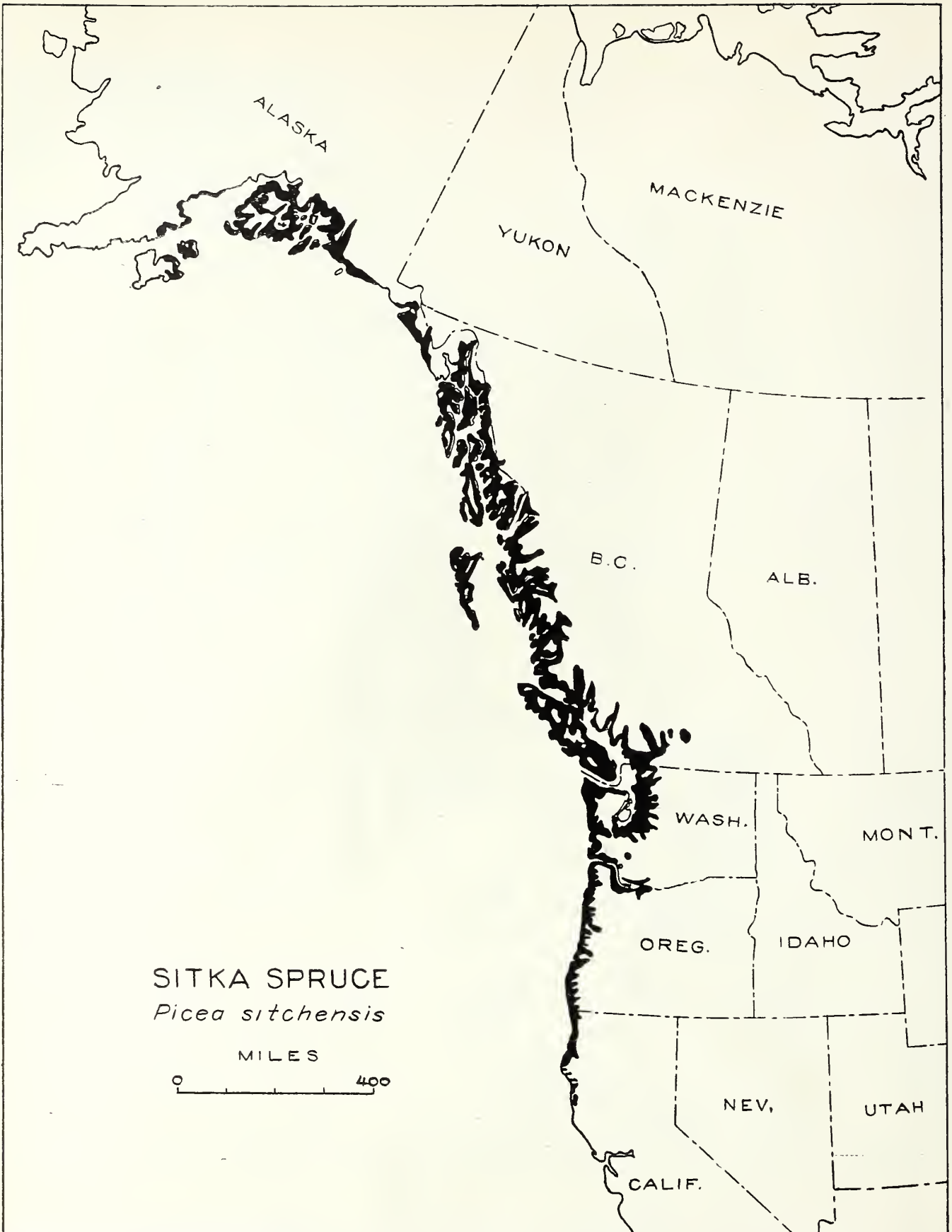


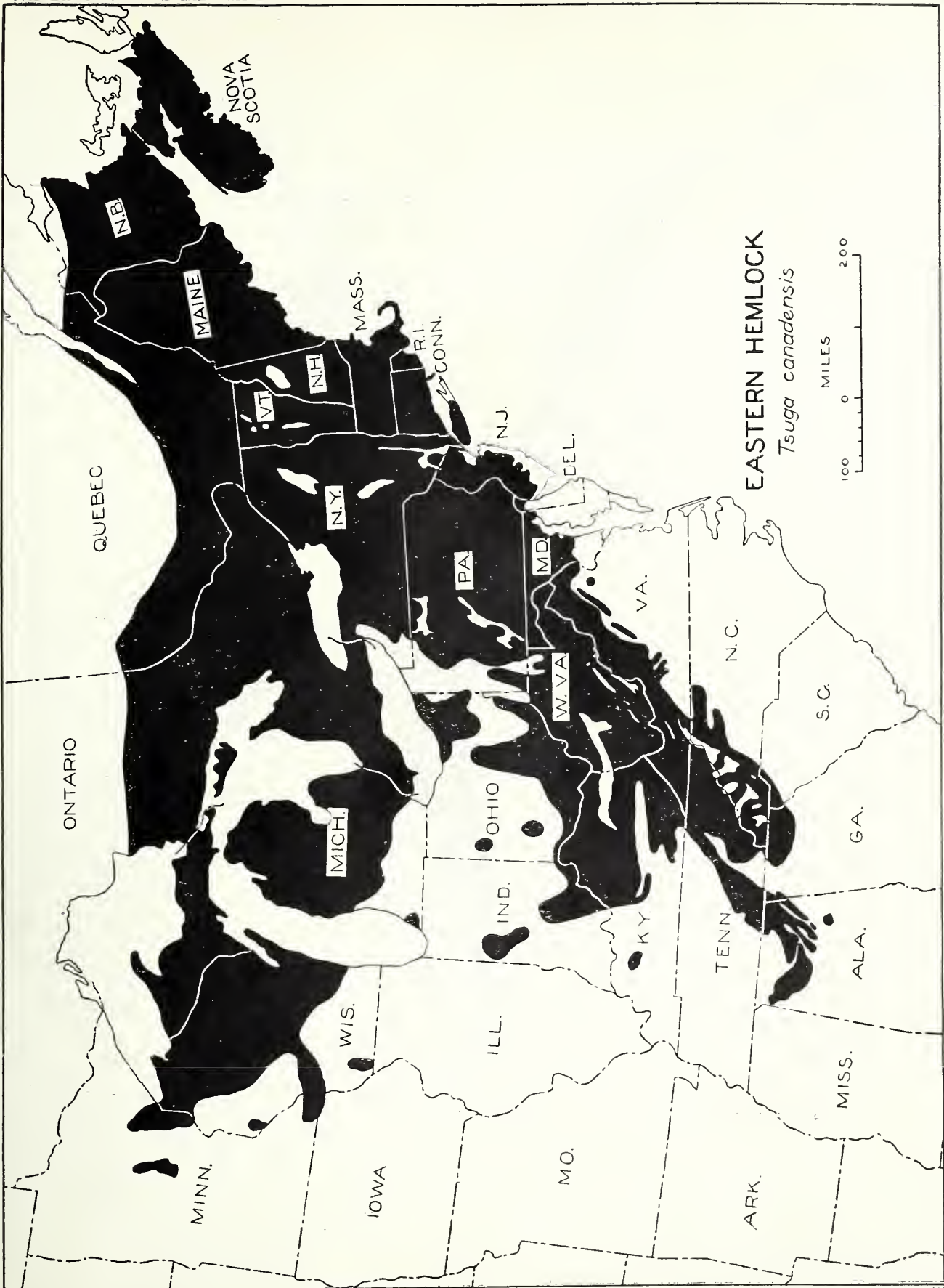


PICEA PUNGENS ENGELMANN

MAP 33

BLUE SPRUCE



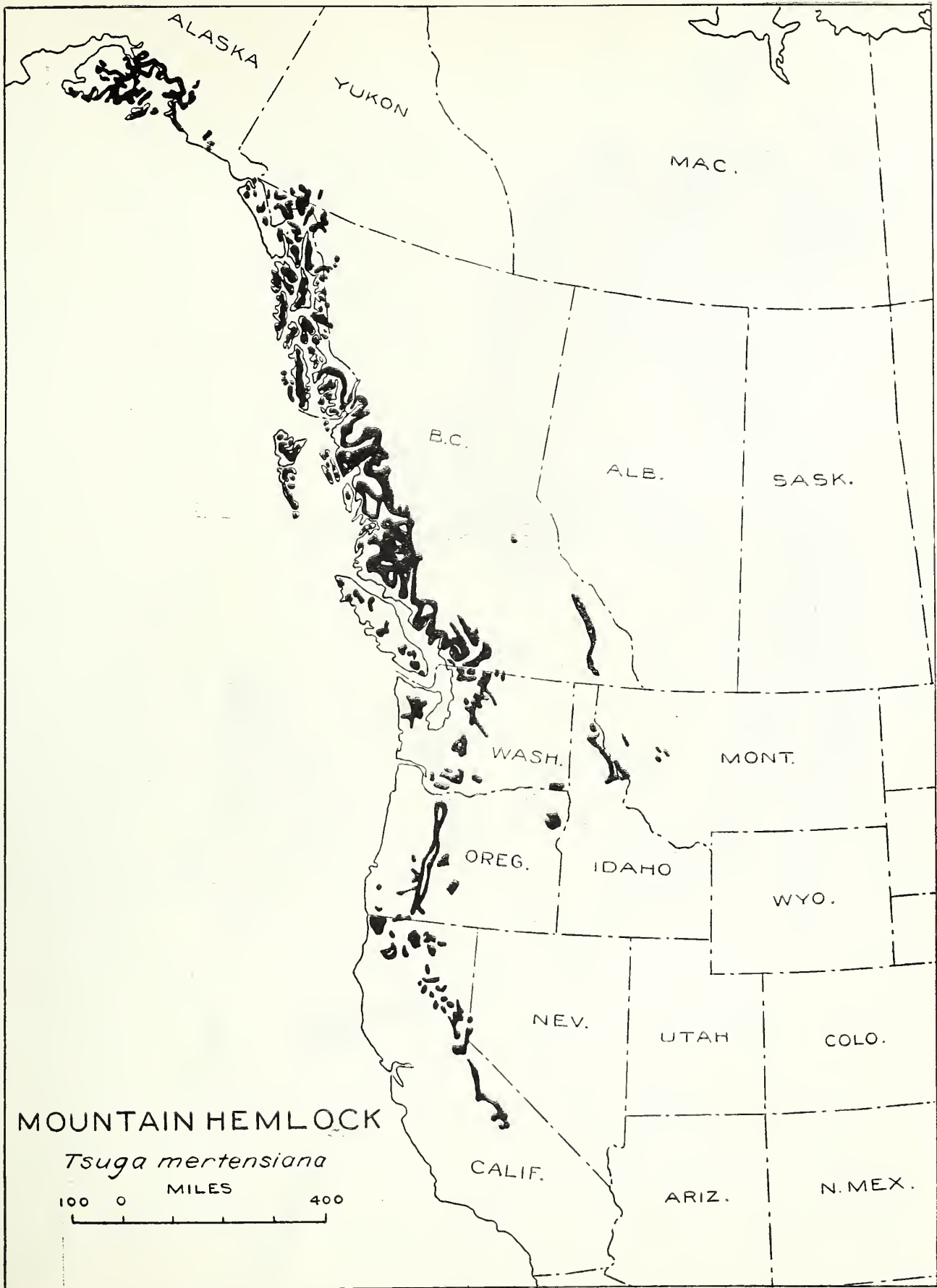


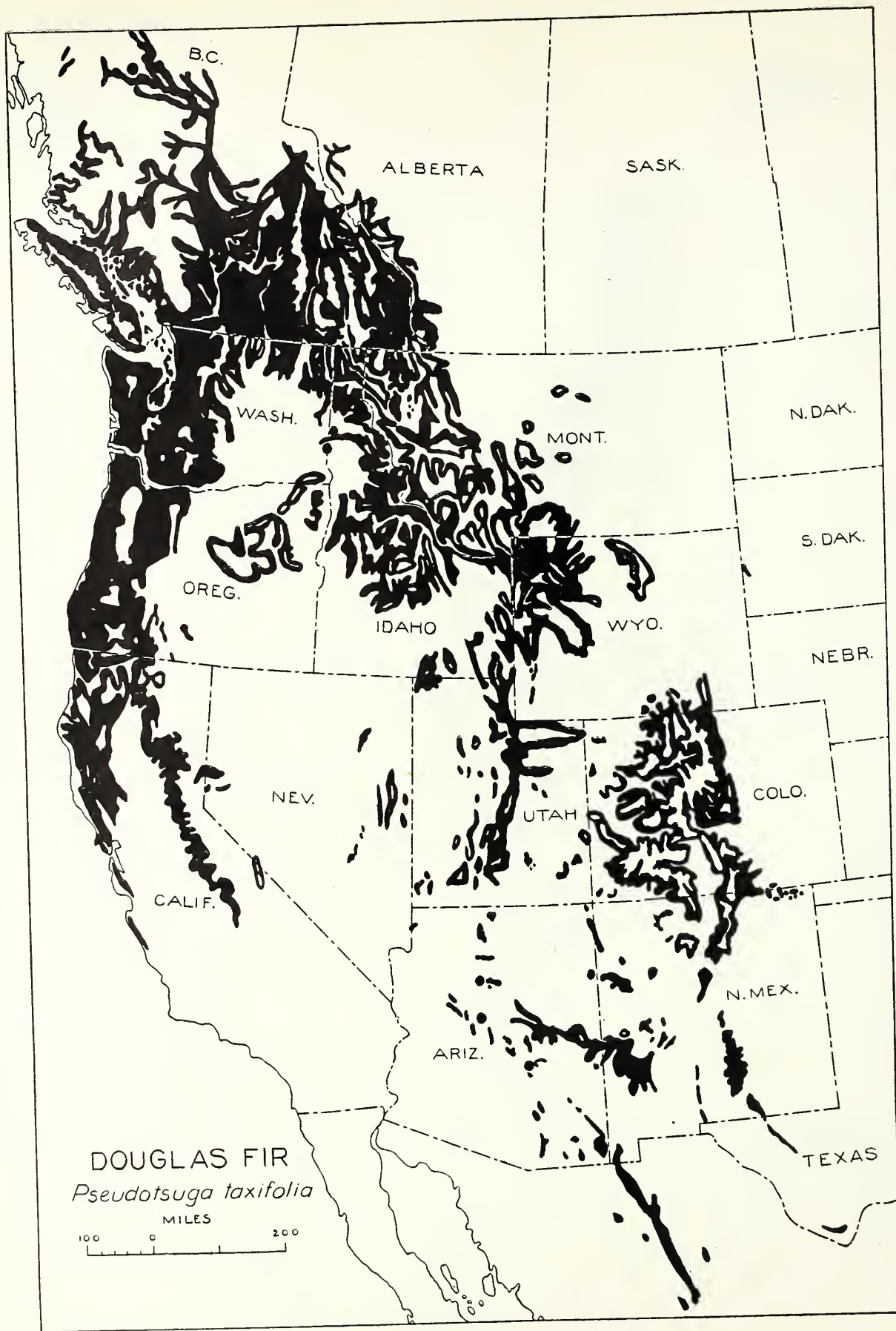
EASTERN HEMLOCK

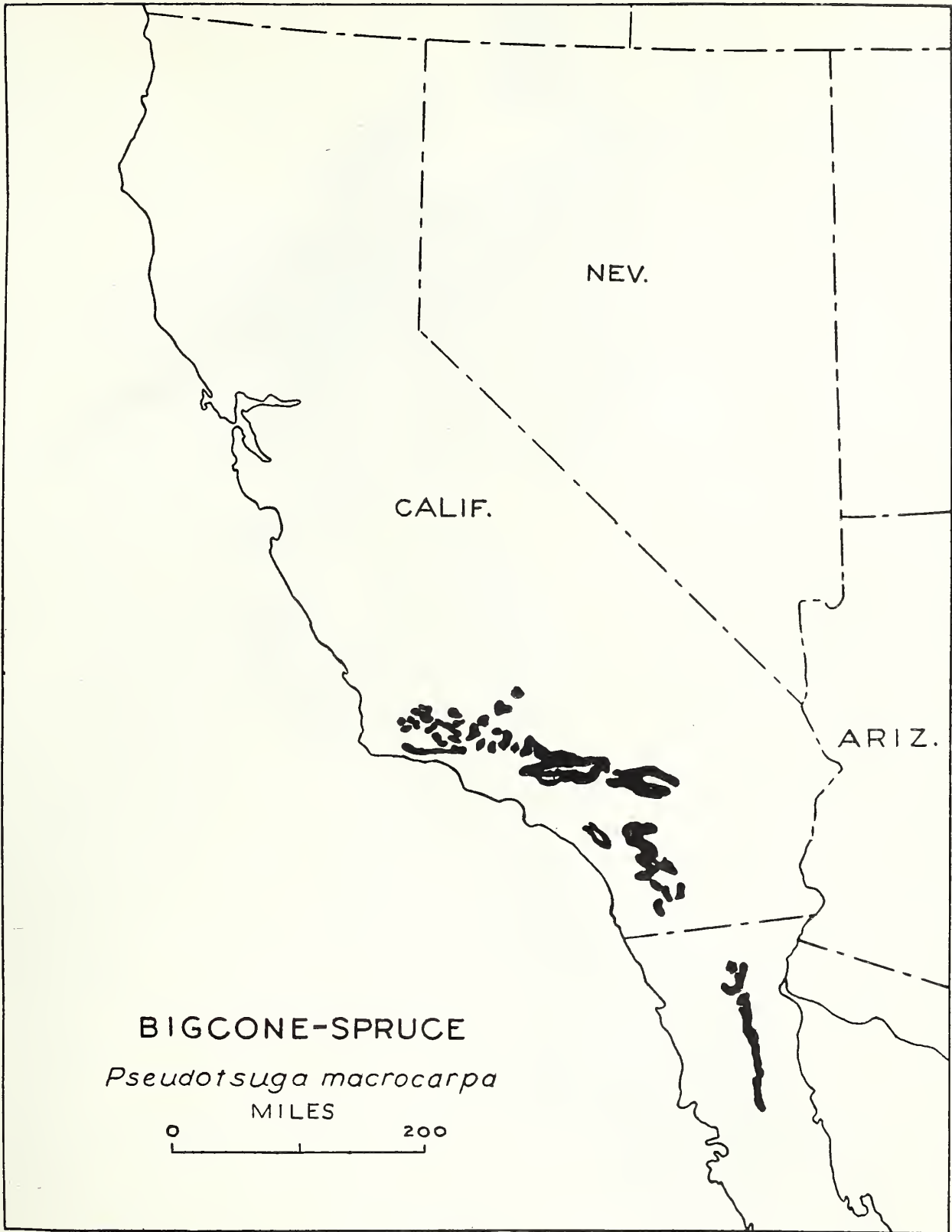
MAP 35

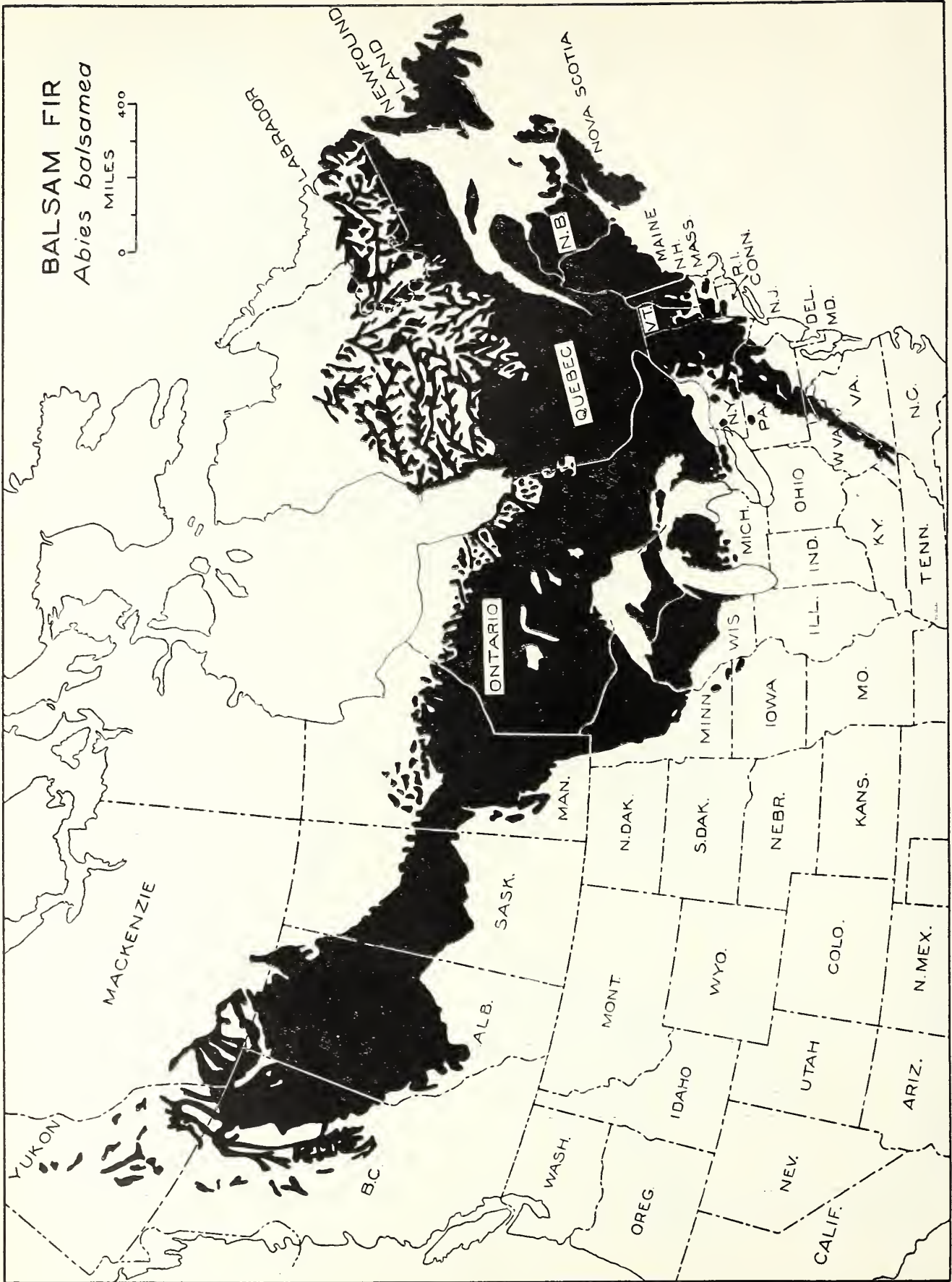
TSUGA CANADENSIS (LINNAEUS) CARRIÈRE







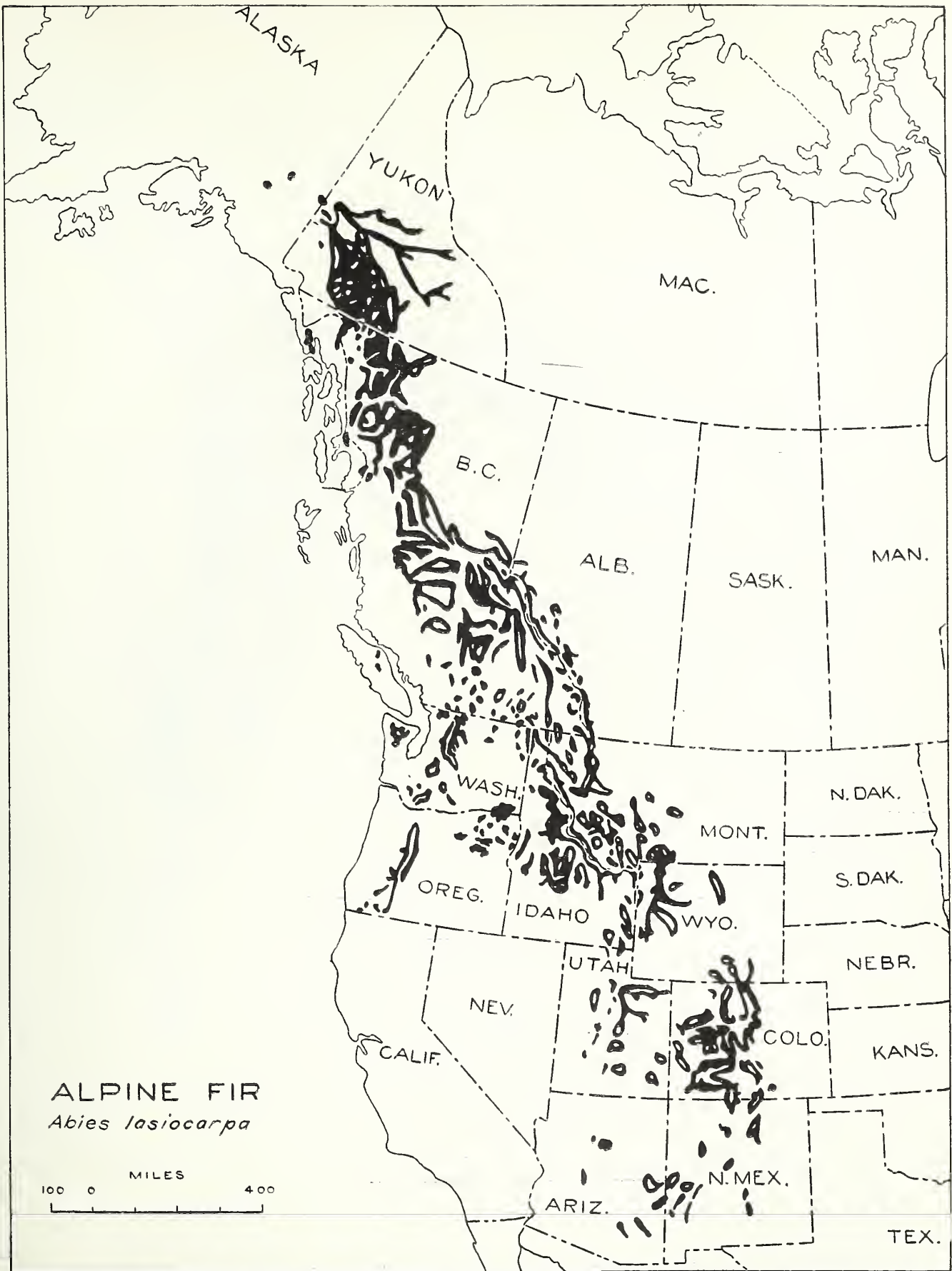




MAP 40

ABIES BALSAMEA (LINNAEUS) MILLER

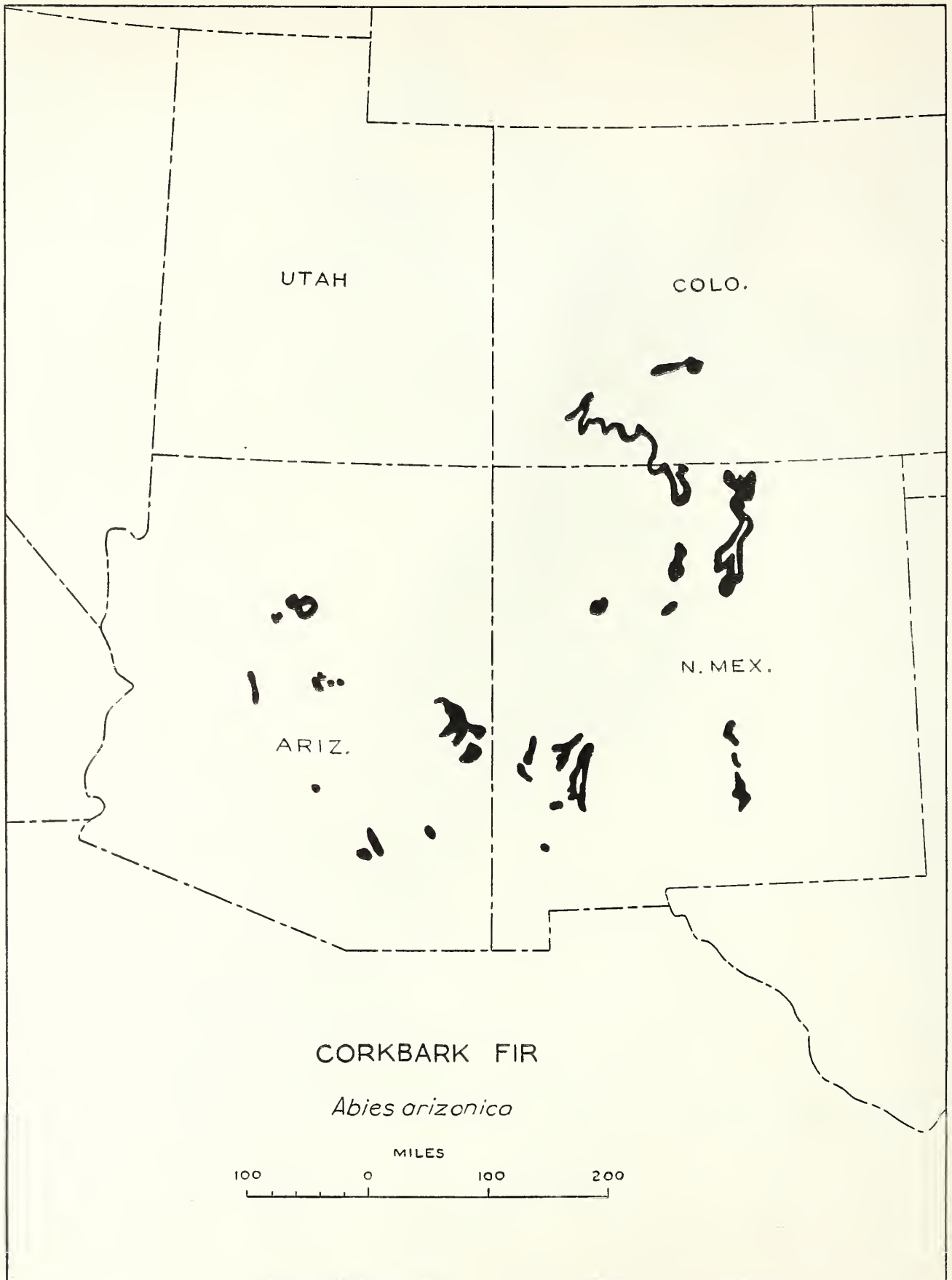
BALSAM FIR

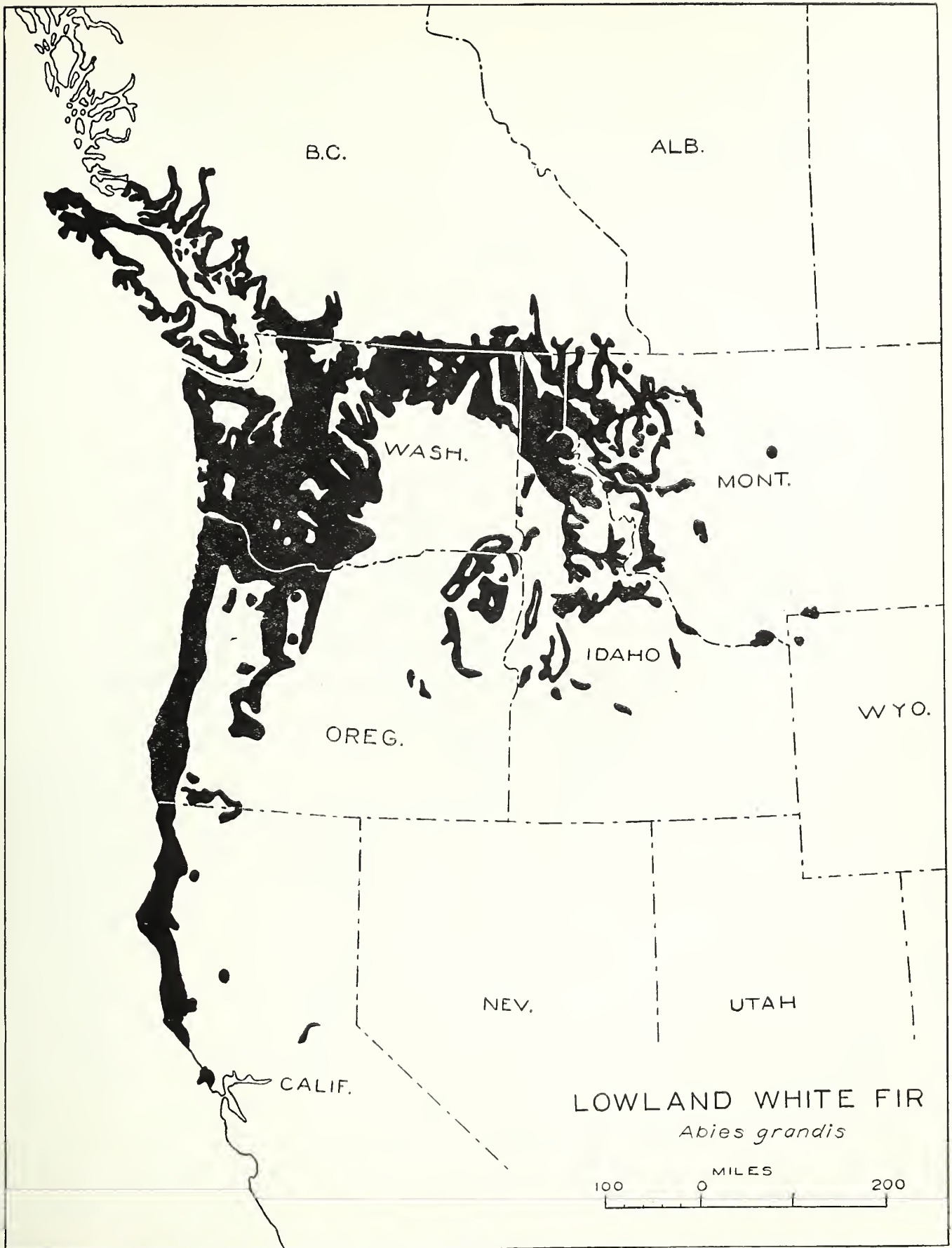


ABIES LASIOCARPA (HOOKER) NUTTALL

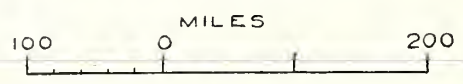
MAP 41

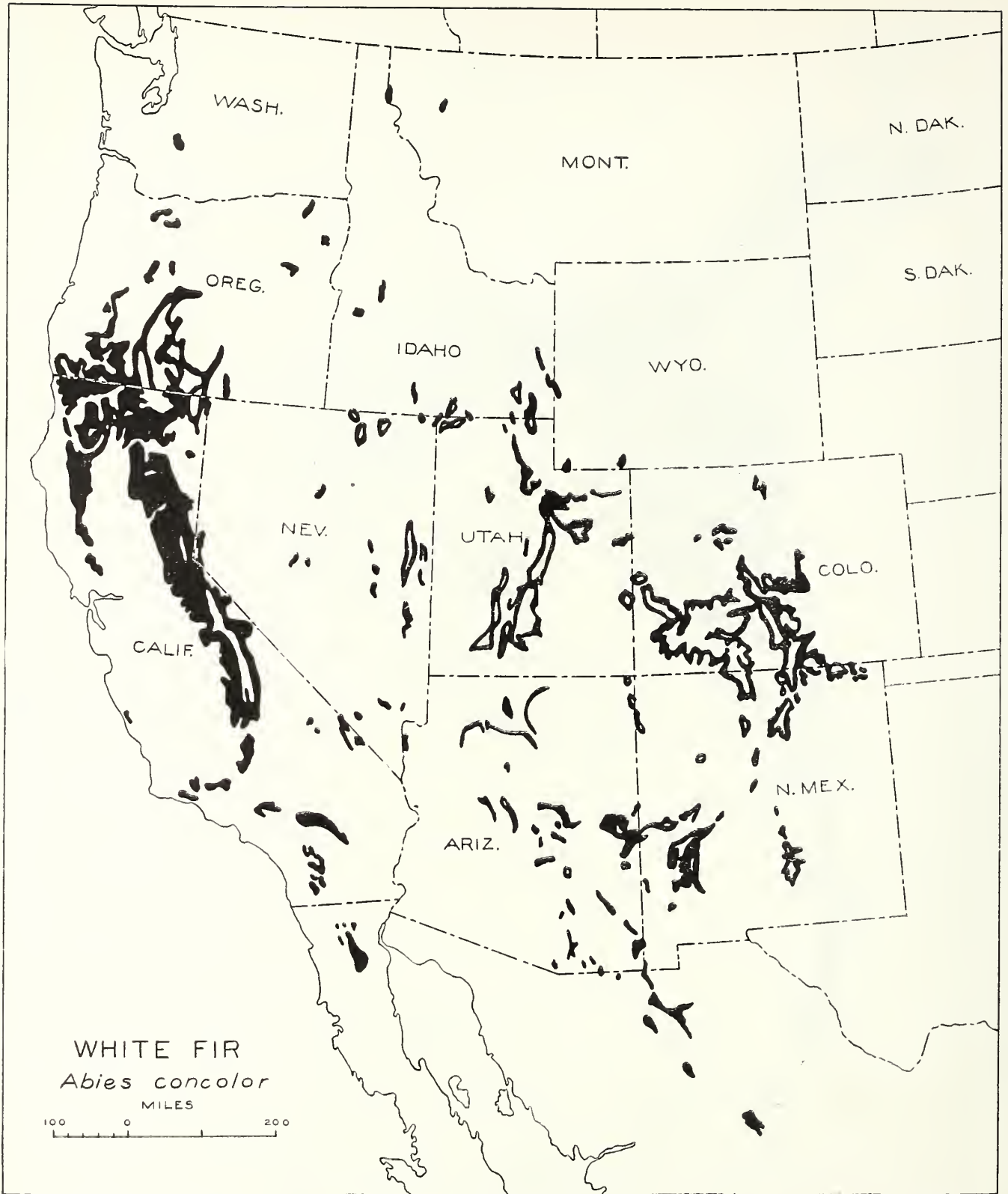
ALPINE FIR





LOWLAND WHITE FIR
Abies grandis



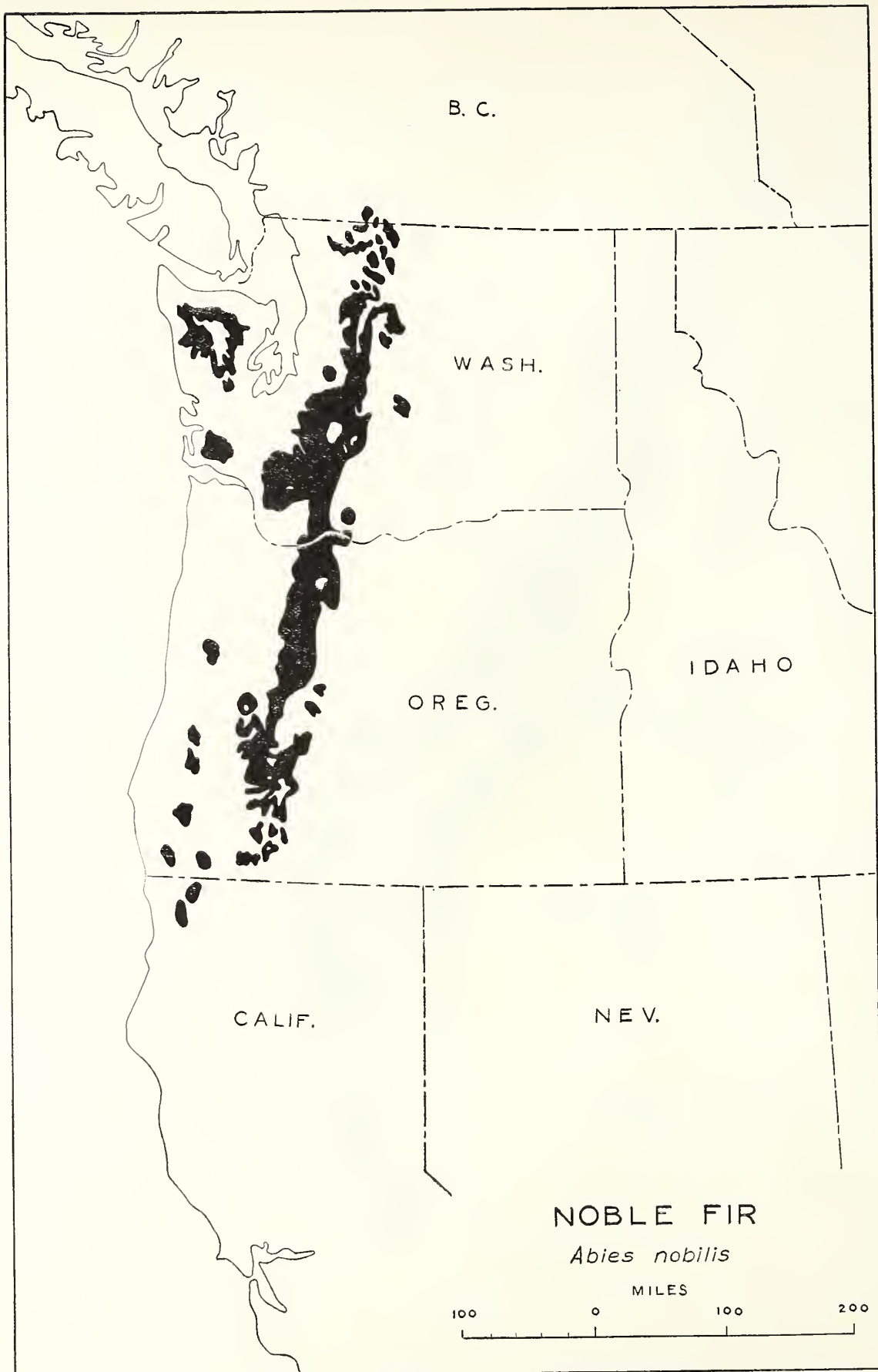


ABIES CONCOLOR LINDLEY

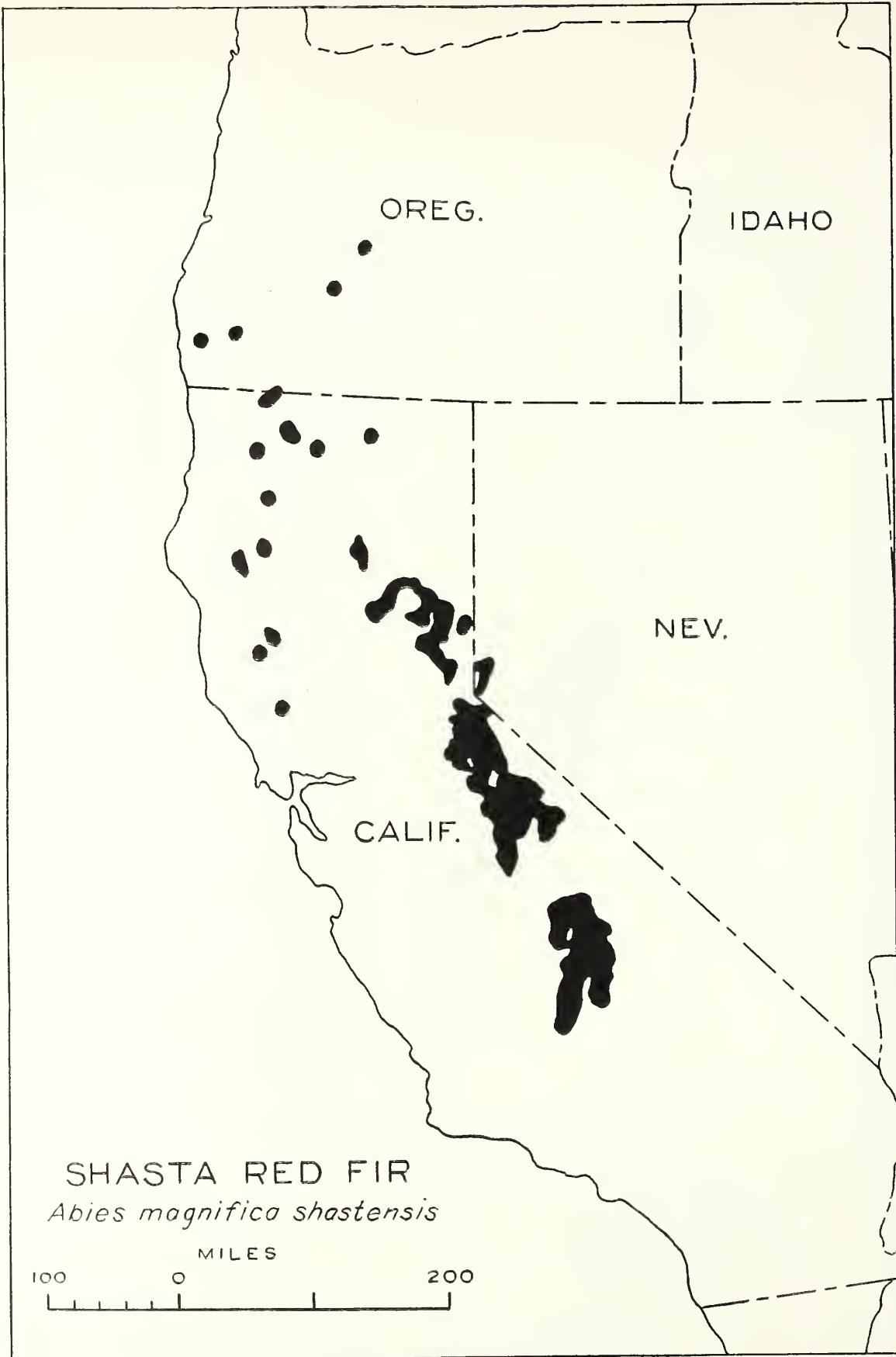
MAP 44

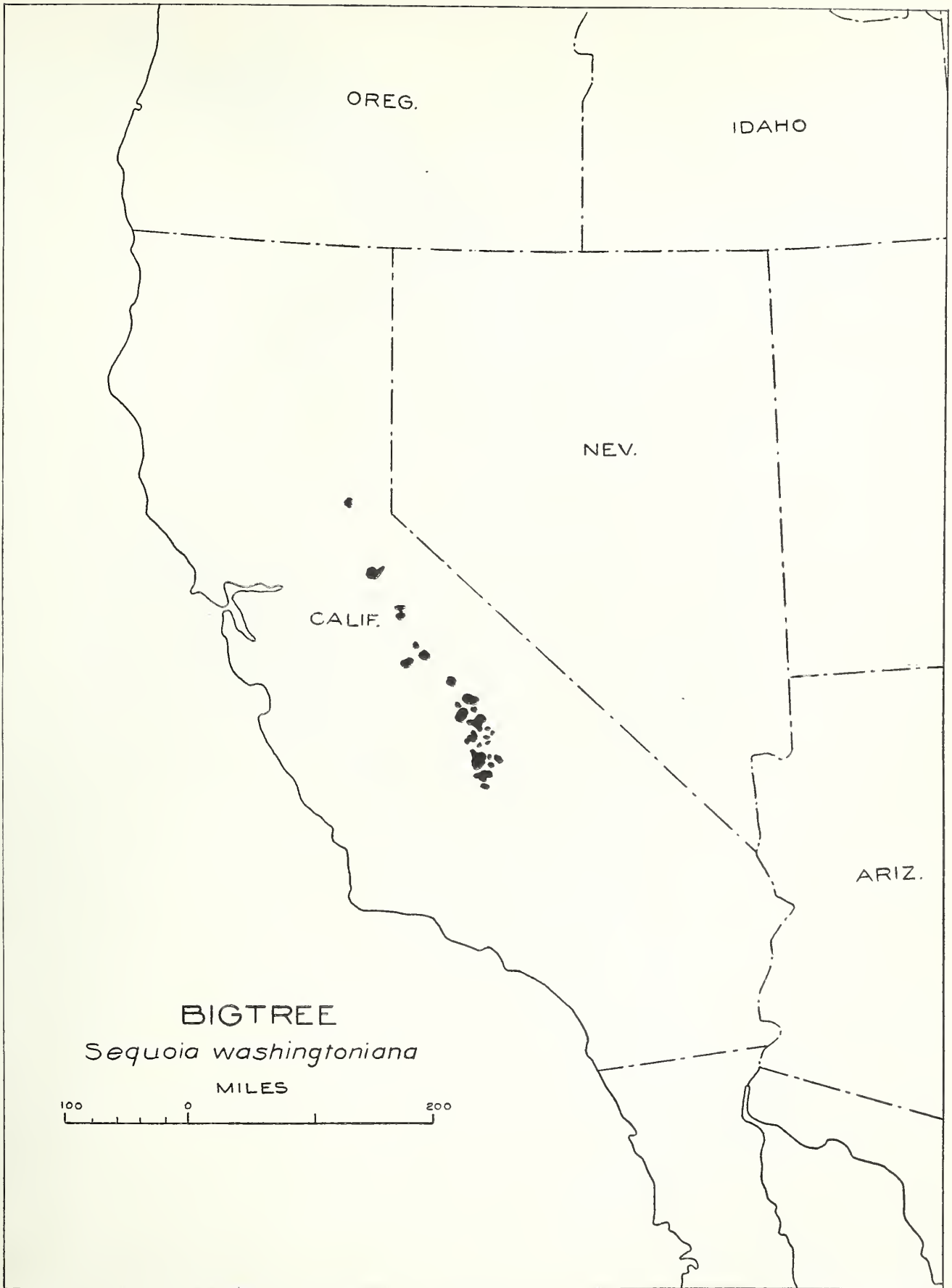
WHITE FIR

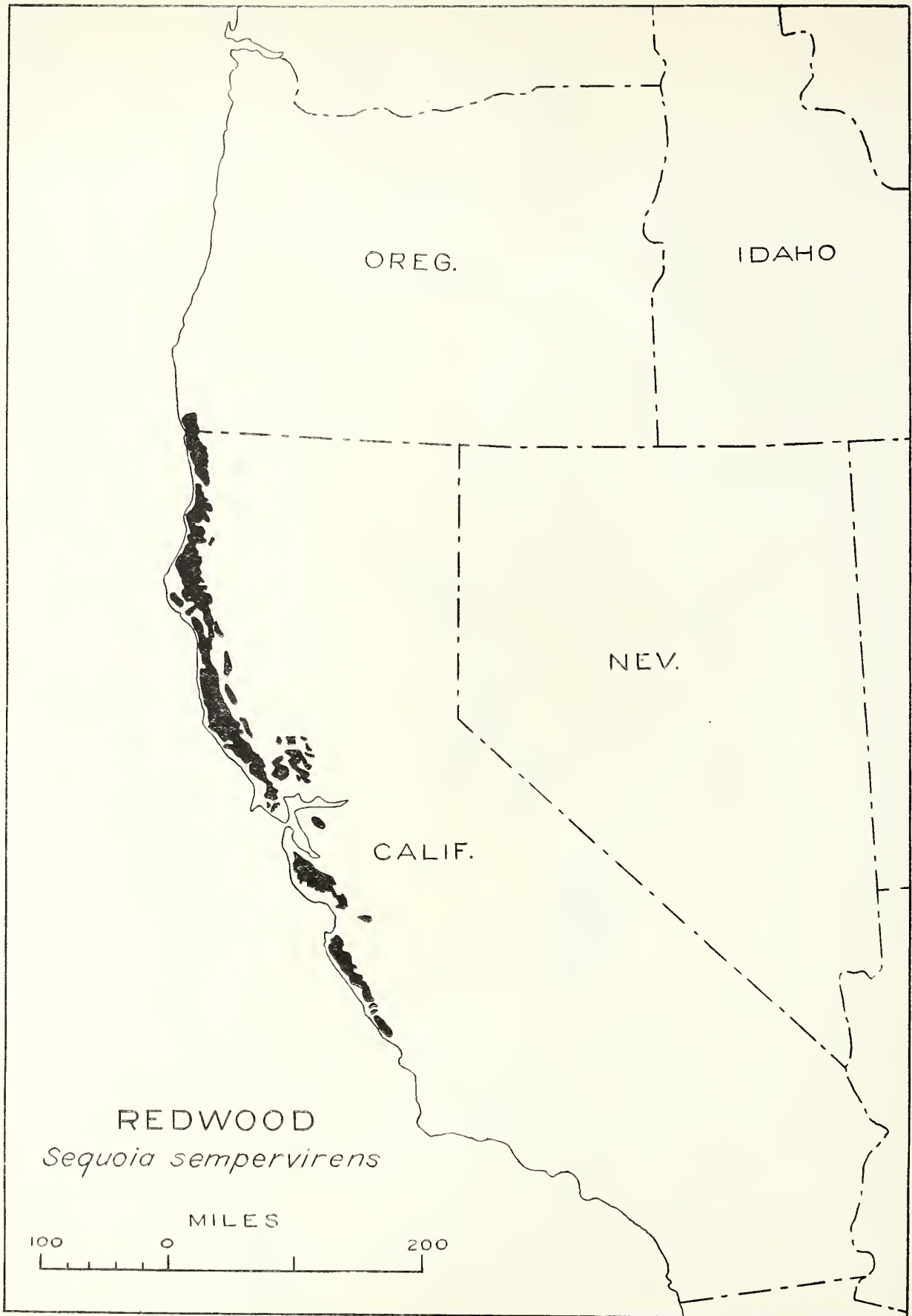


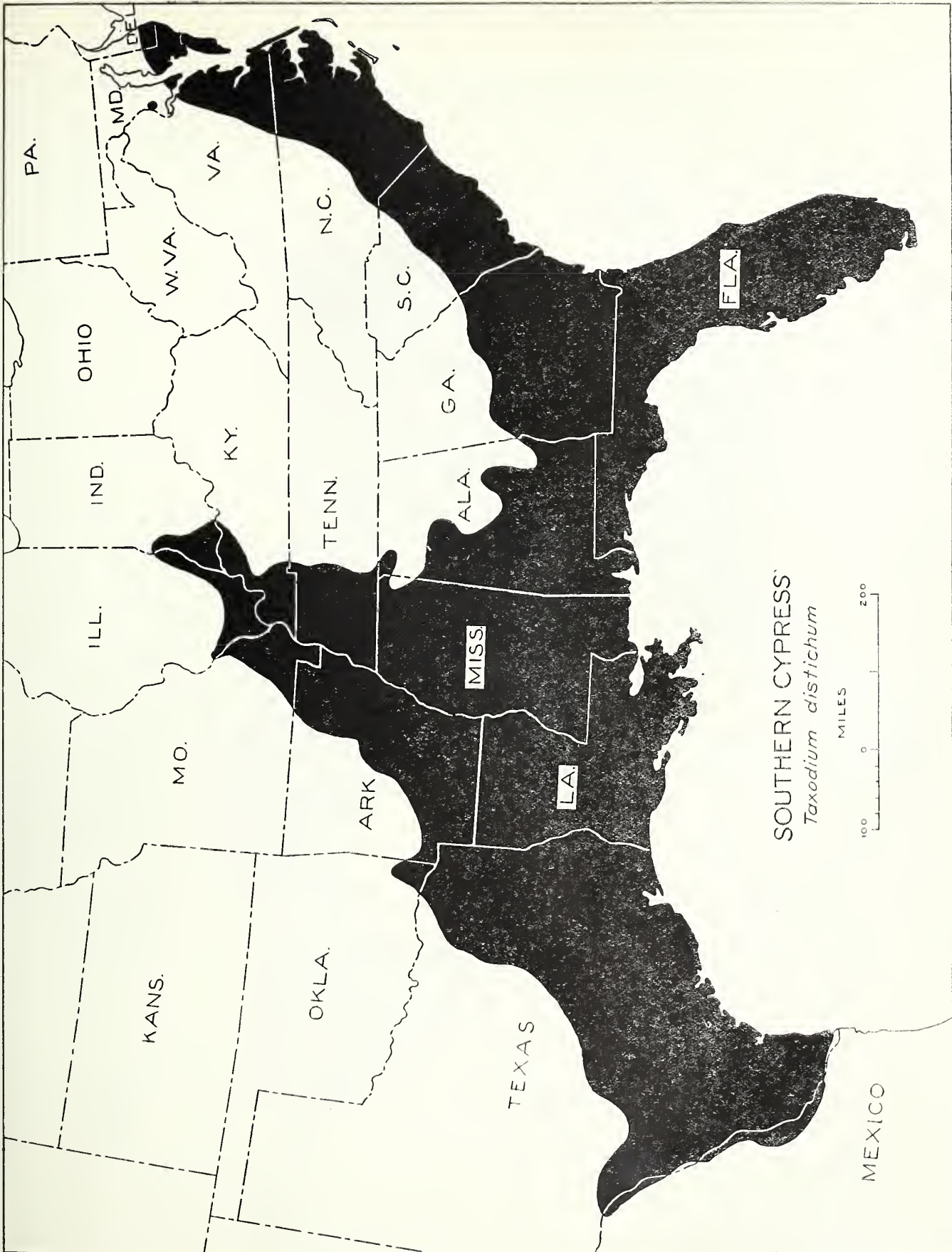




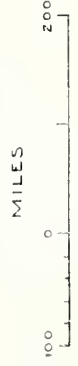


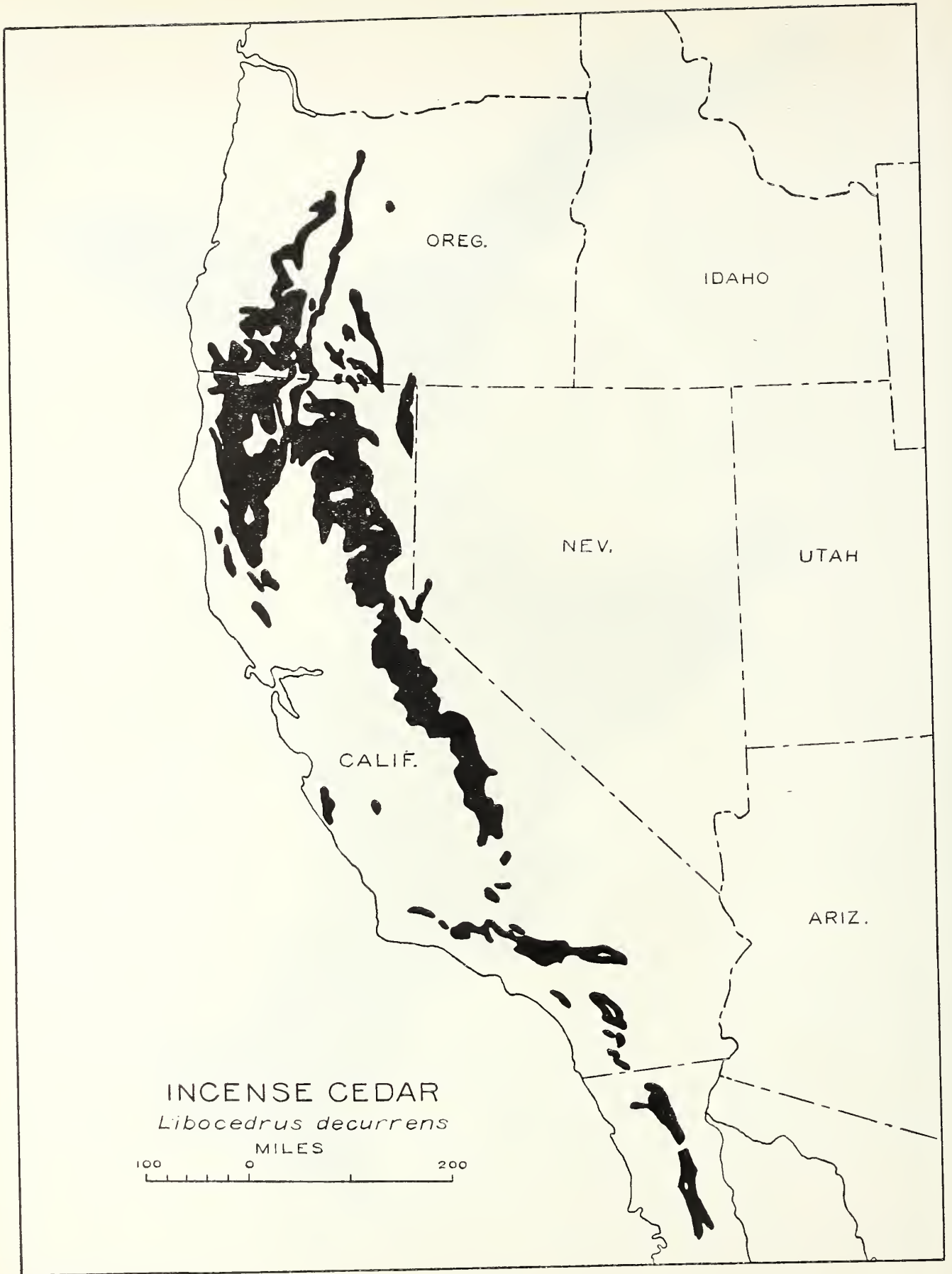






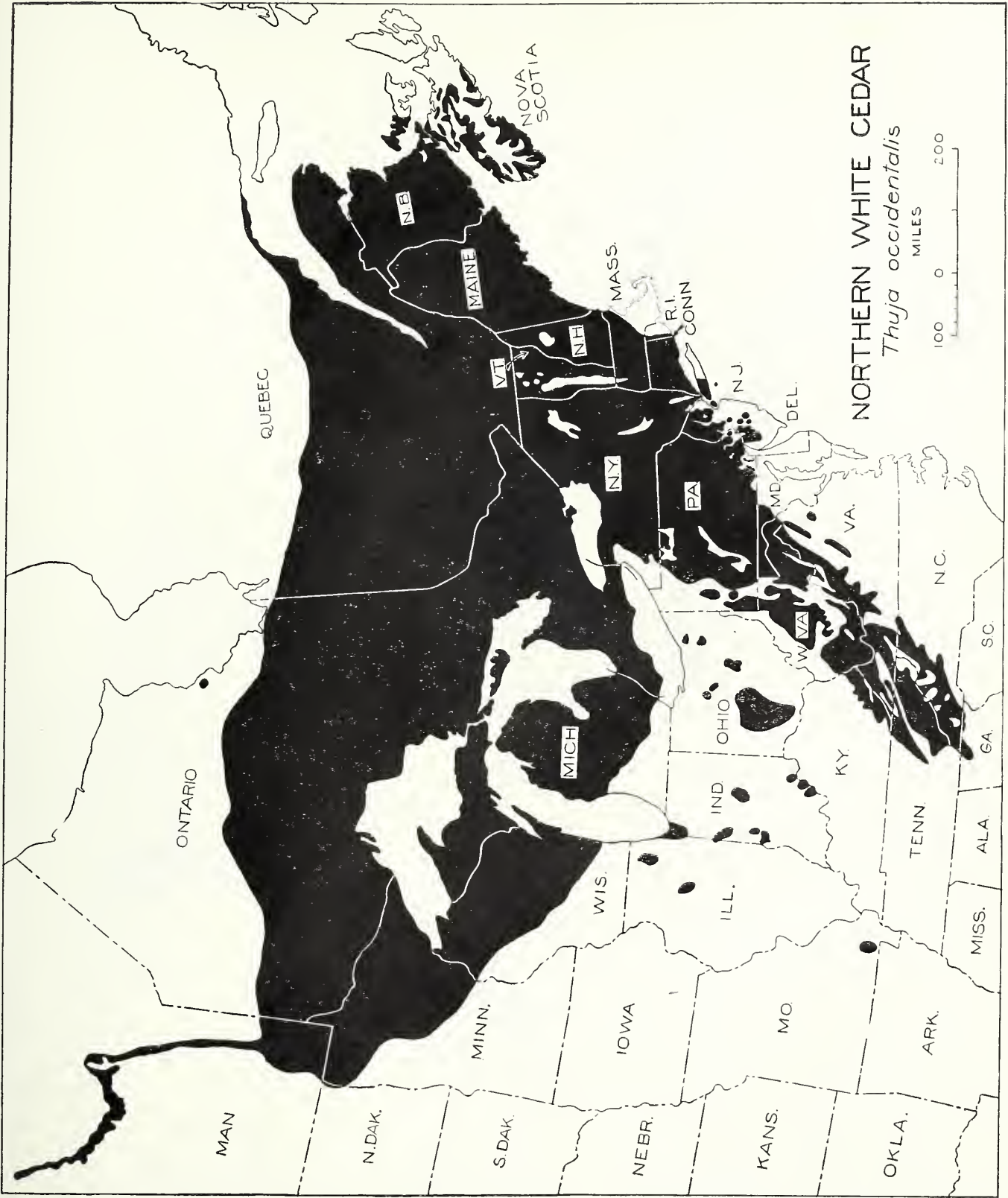
SOUTHERN CYPRESS
Taxodium distichum





INCENSE CEDAR
Libocedrus decurrens

MILES
100 0 200



NORTHERN WHITE CEDAR
Thuja occidentalis

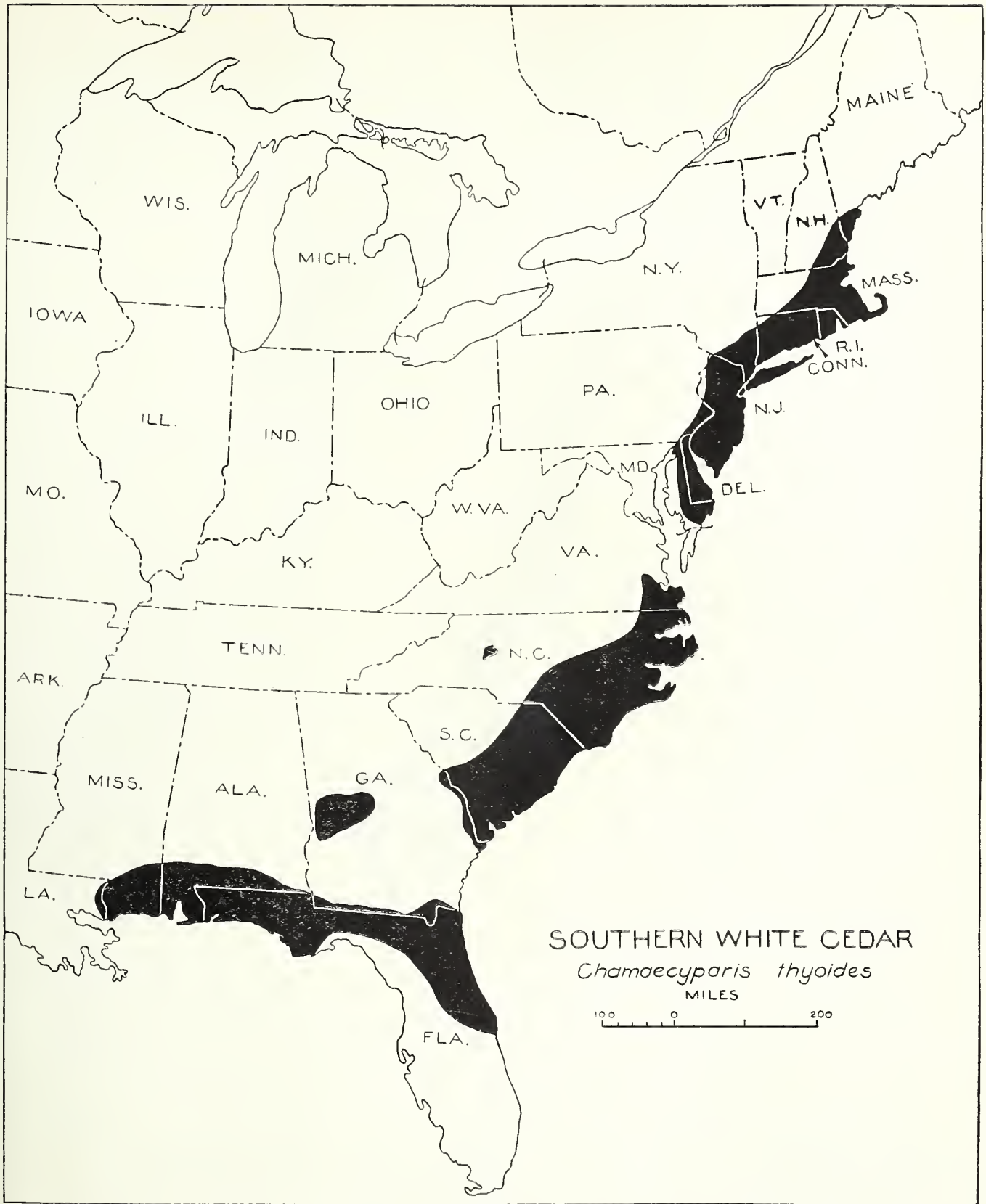
MILES
 100 0 200

NORTHERN WHITE CEDAR

MAP 53

THUJA OCCIDENTALIS LINNÆUS

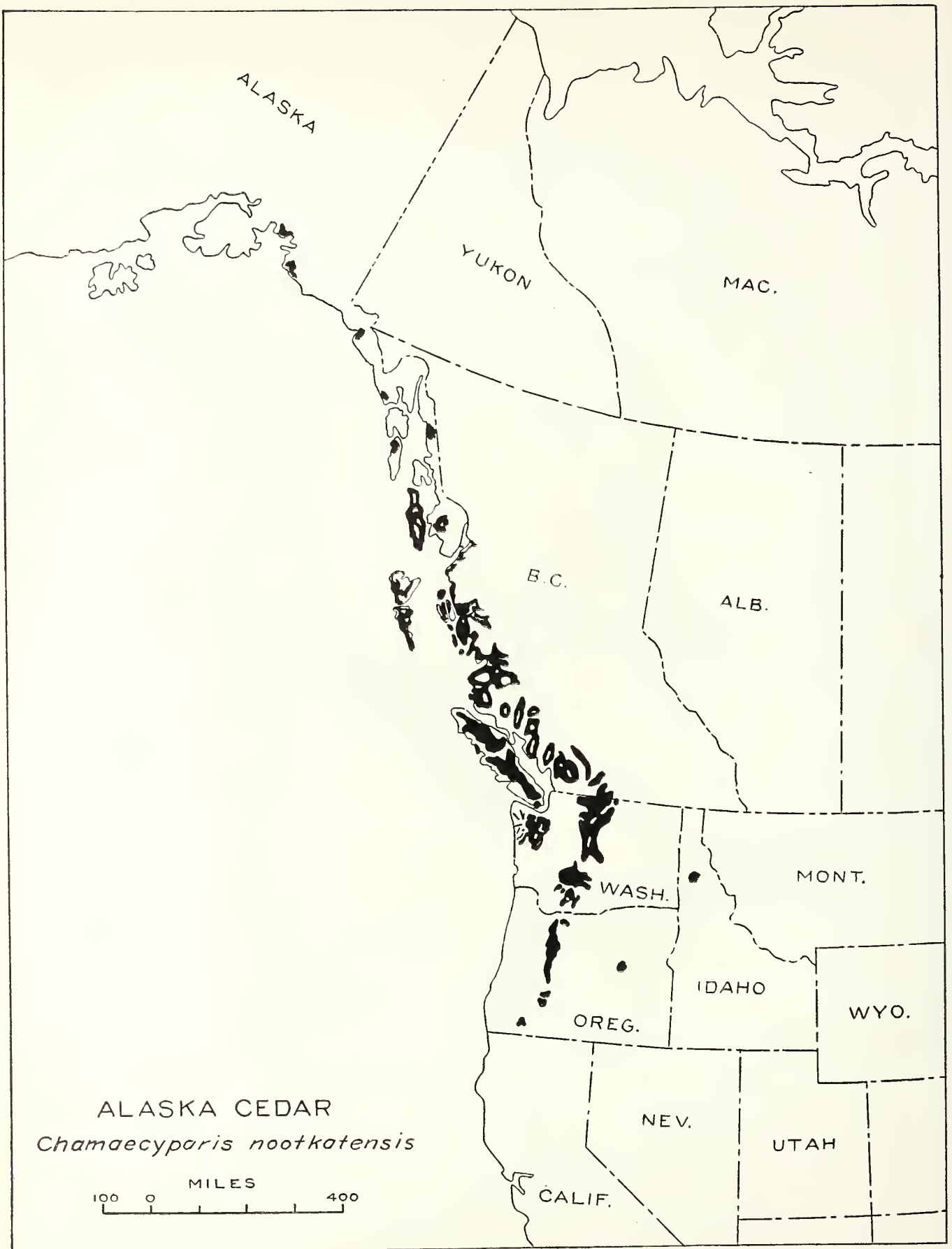




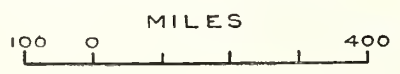
MAP 55

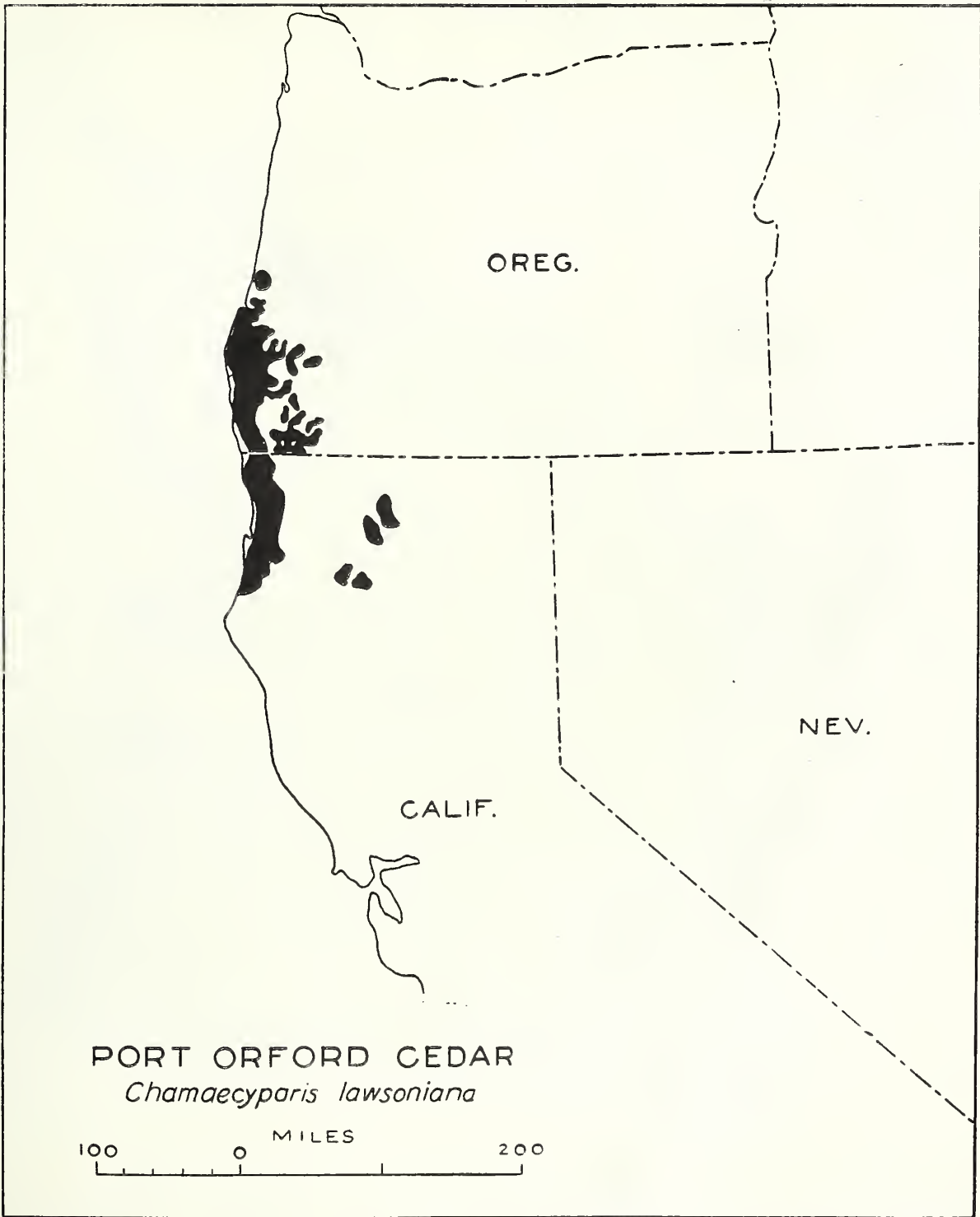
CHAMAECYPARIS THYOIDES (LINNAEUS) BRITTON, STERN, AND POGGENBERG

SOUTHERN WHITE CEDAR

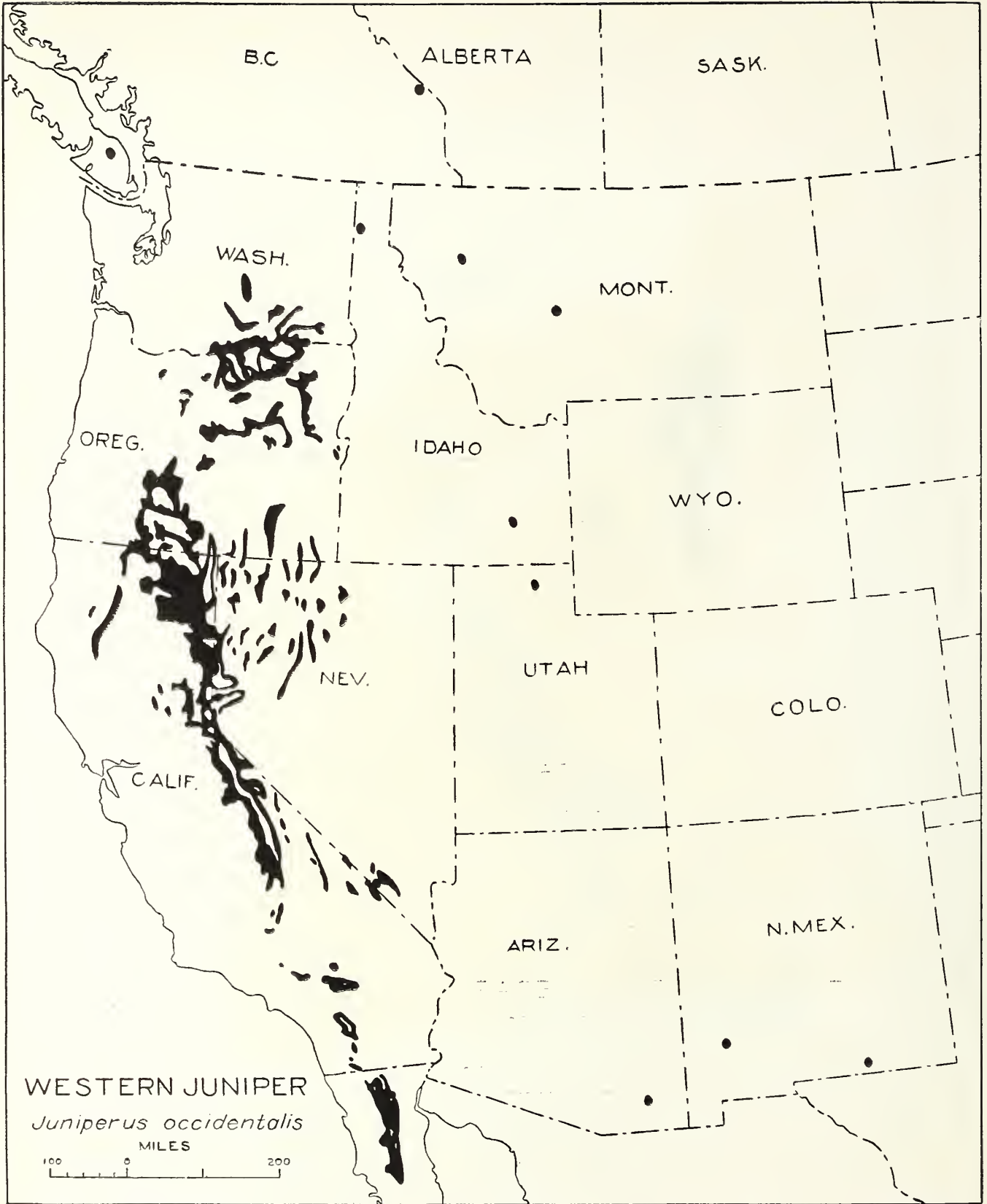


ALASKA CEDAR
Chamaecyparis nootkatensis





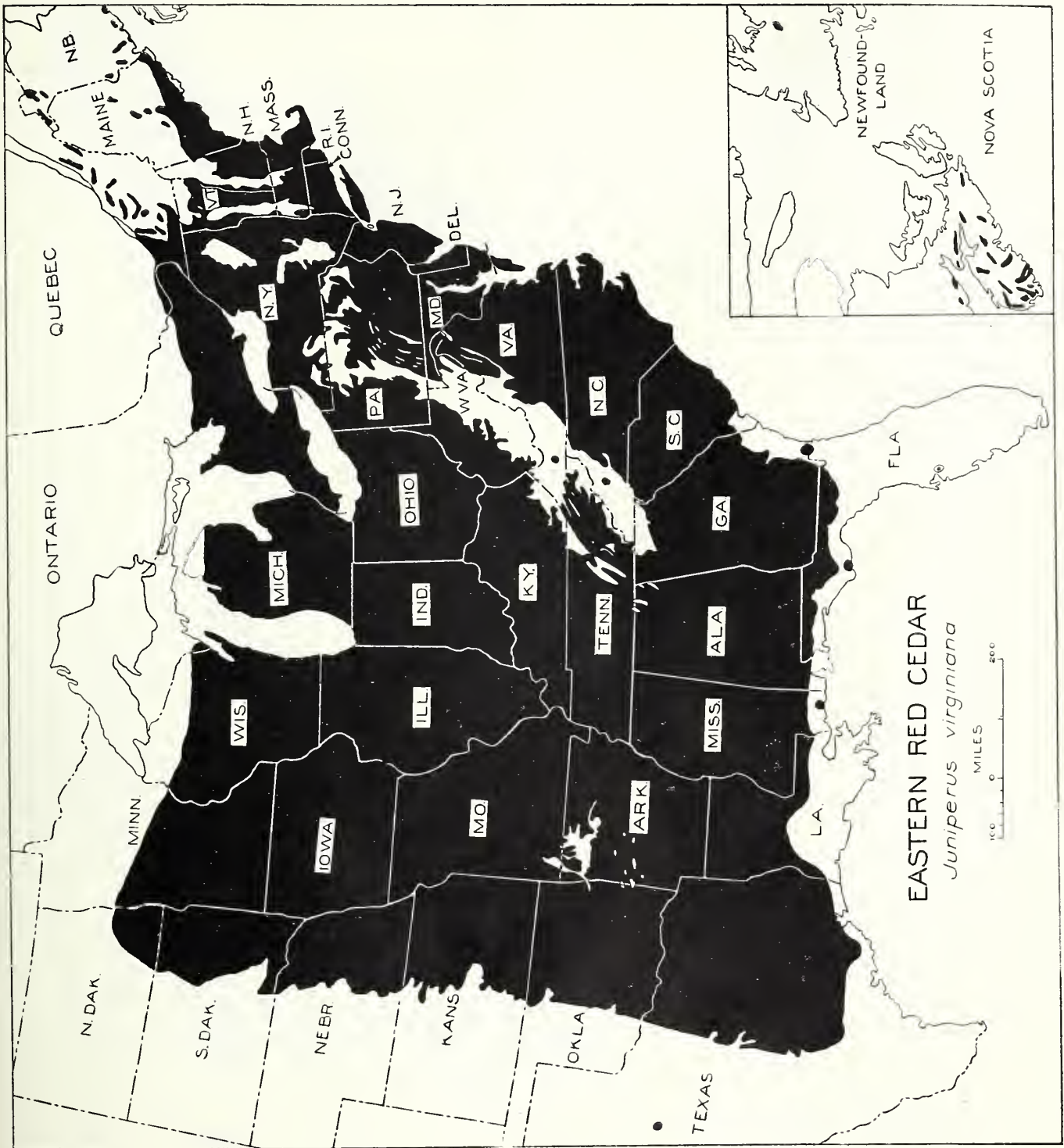
MAP 57
CHAMAECYPARIS LAWSONIANA (A. MURRAY) PARLATORE PORT ORFORD CEDAR



WESTERN JUNIPER

Juniperus occidentalis

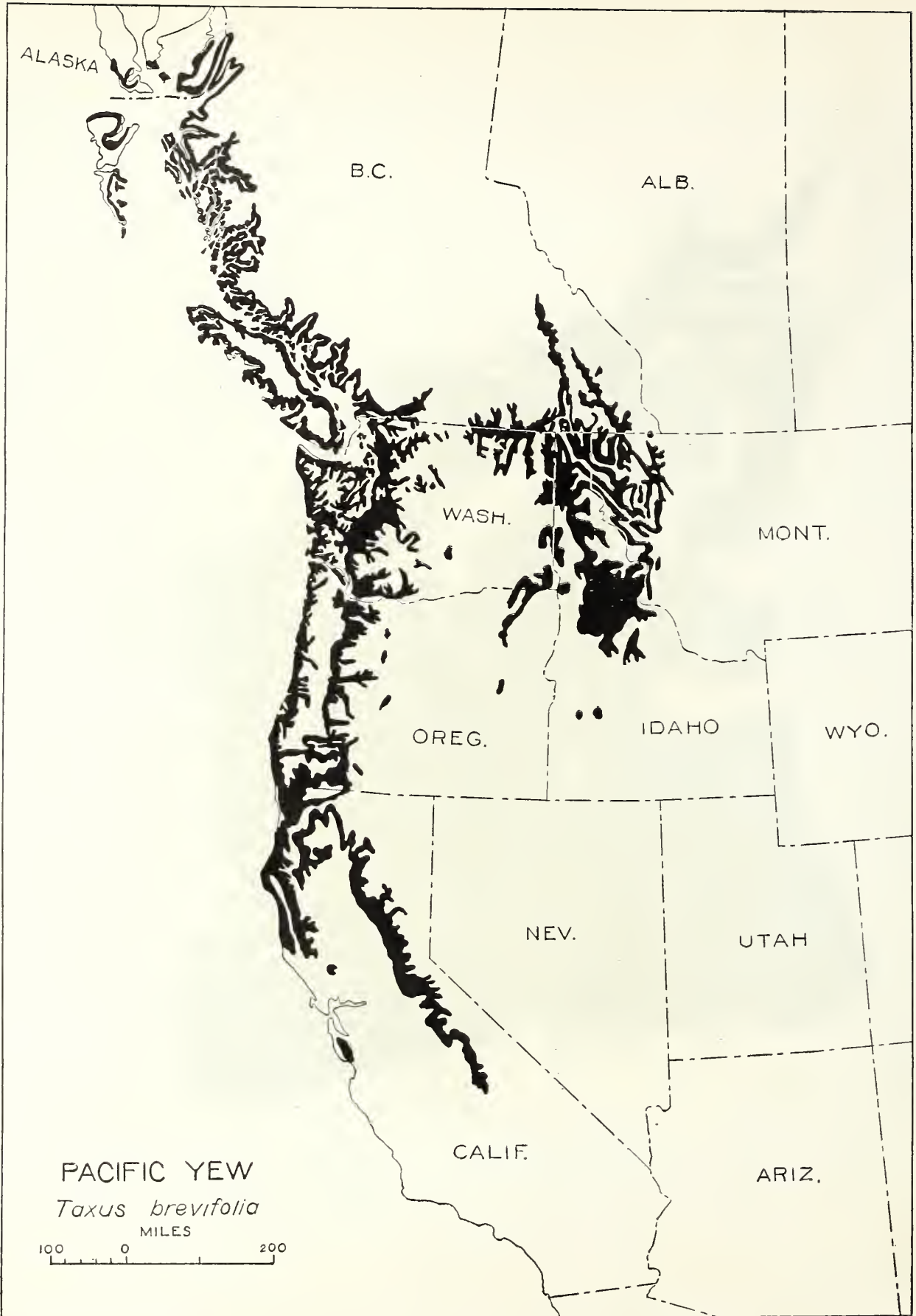
MILES
100 0 200

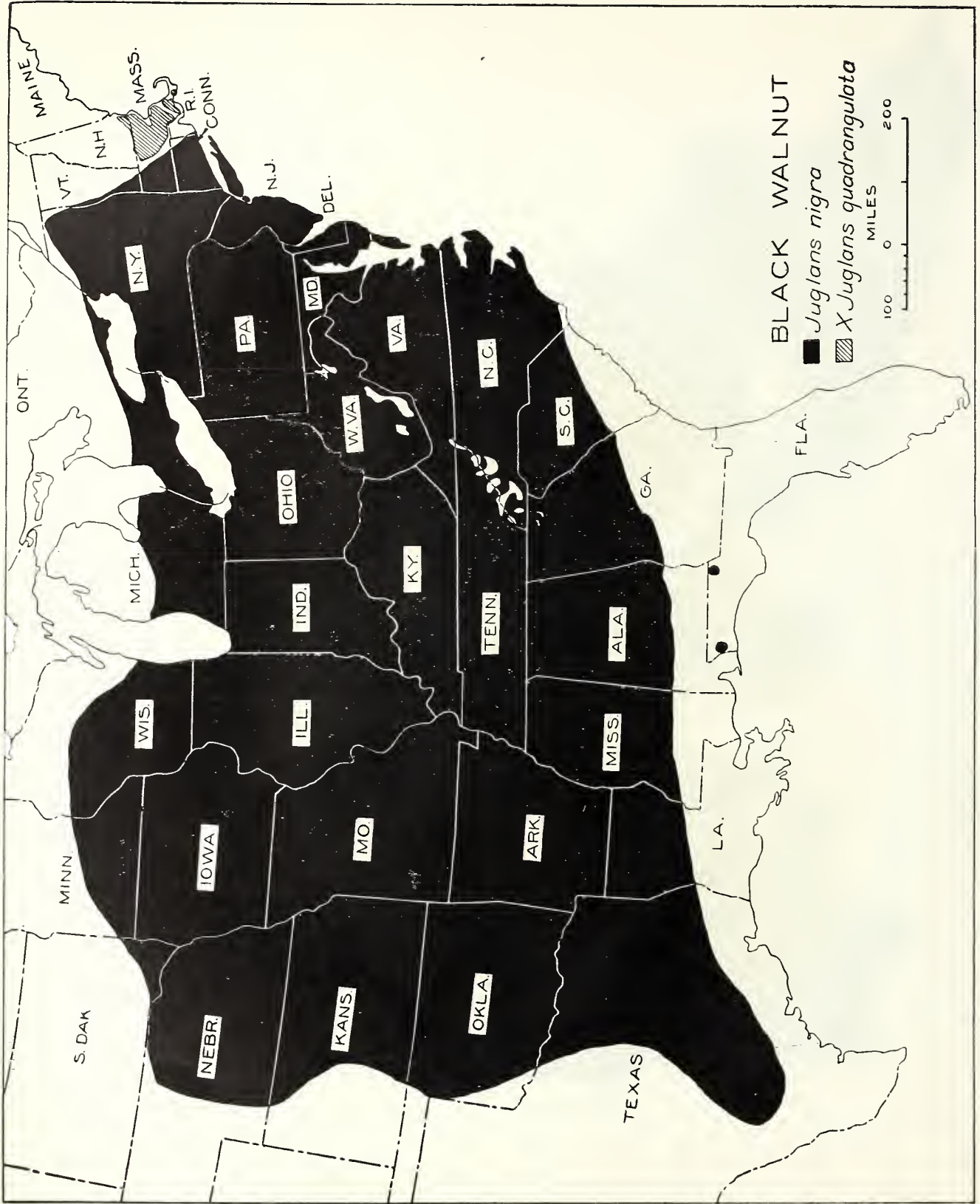


EASTERN RED CEDAR

MAP 59

JUNIPERUS VIRGINIANA LINNAEUS

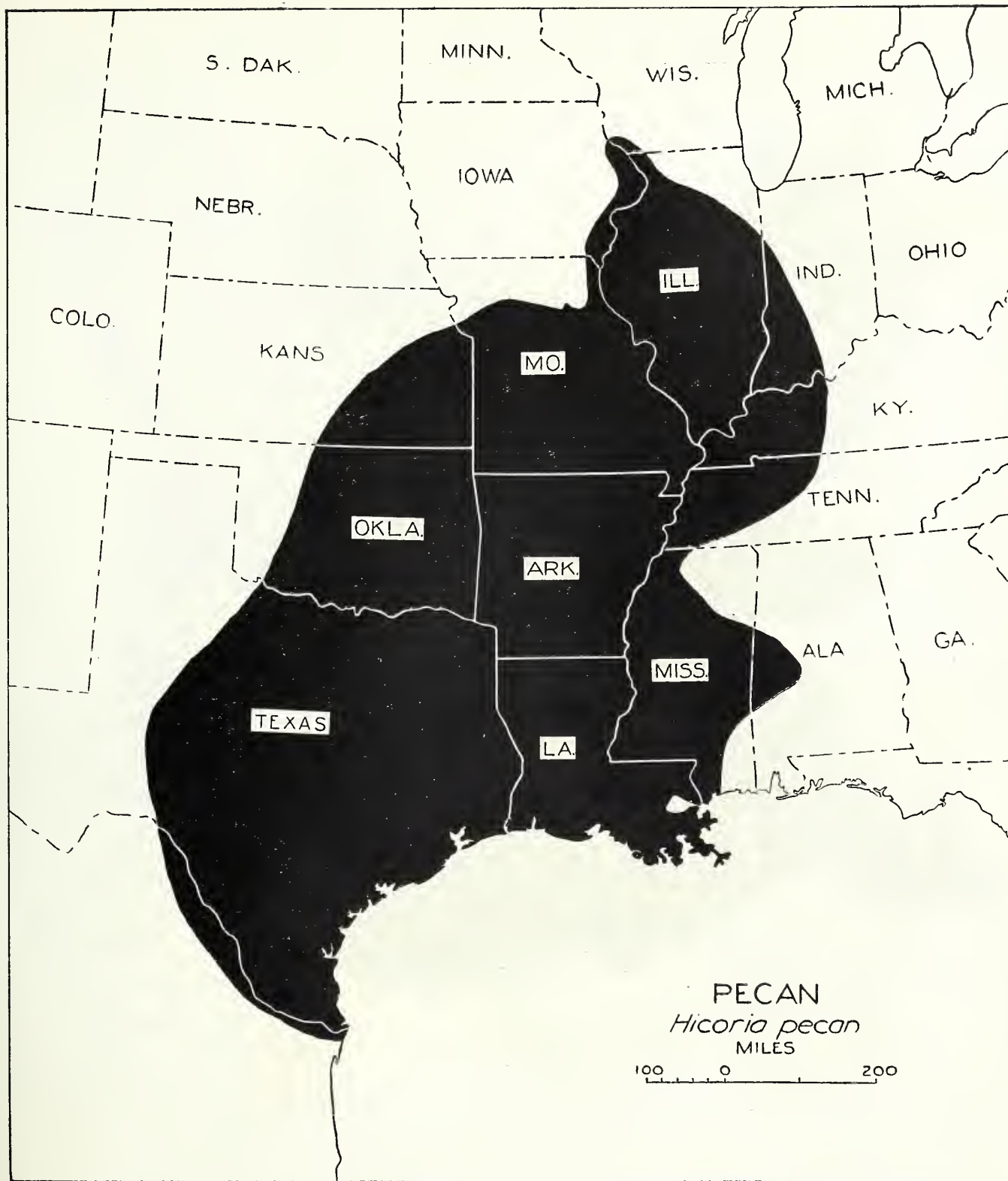




MAP 62

X JUGLANS QUADRANGULATA REHDER
JUGLANS NIGRA LINNAEUS

BLACK WALNUT



HICORIA PECAN (MARSHALL) BRITTON

MAP 63

PECAN

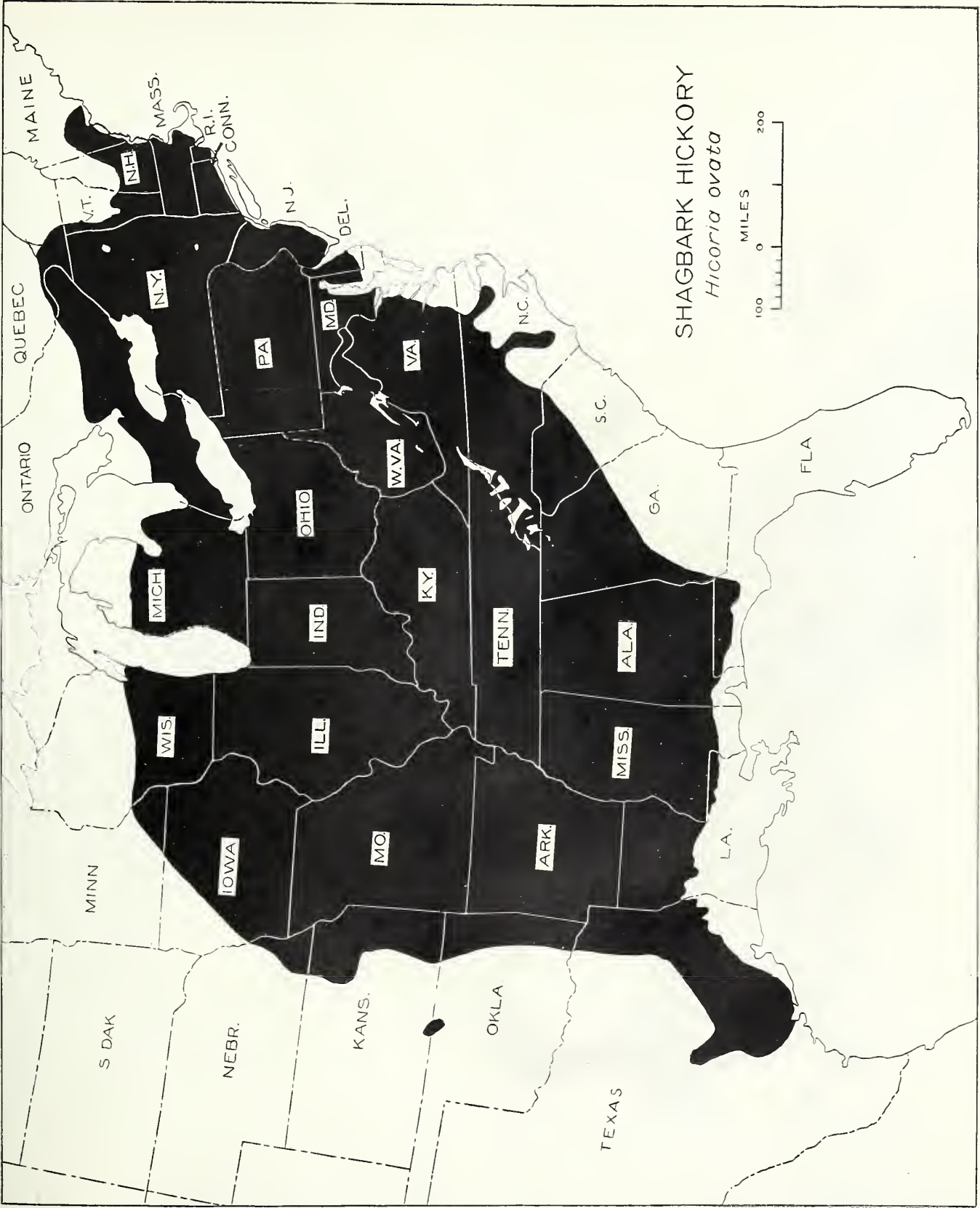


BITTERNUT HICKORY

MAP 64

HICORIA CORDIFORMIS (WANGENHEIM) BRITTON

BITTERNUT HICKORY
Hicoria cordiformis

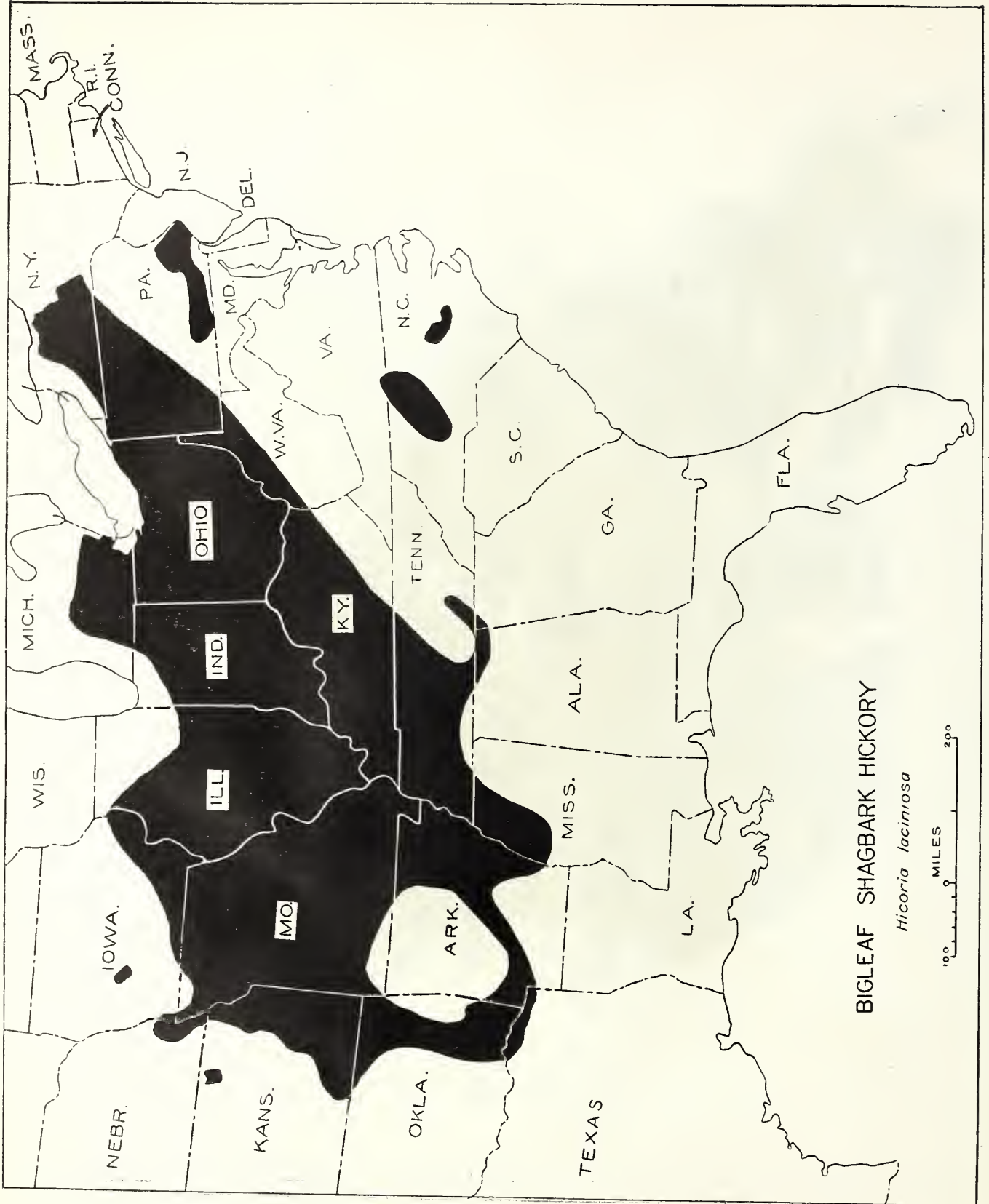


SHAGBARK HICKORY
Hicoria ovata

SHAGBARK HICKORY

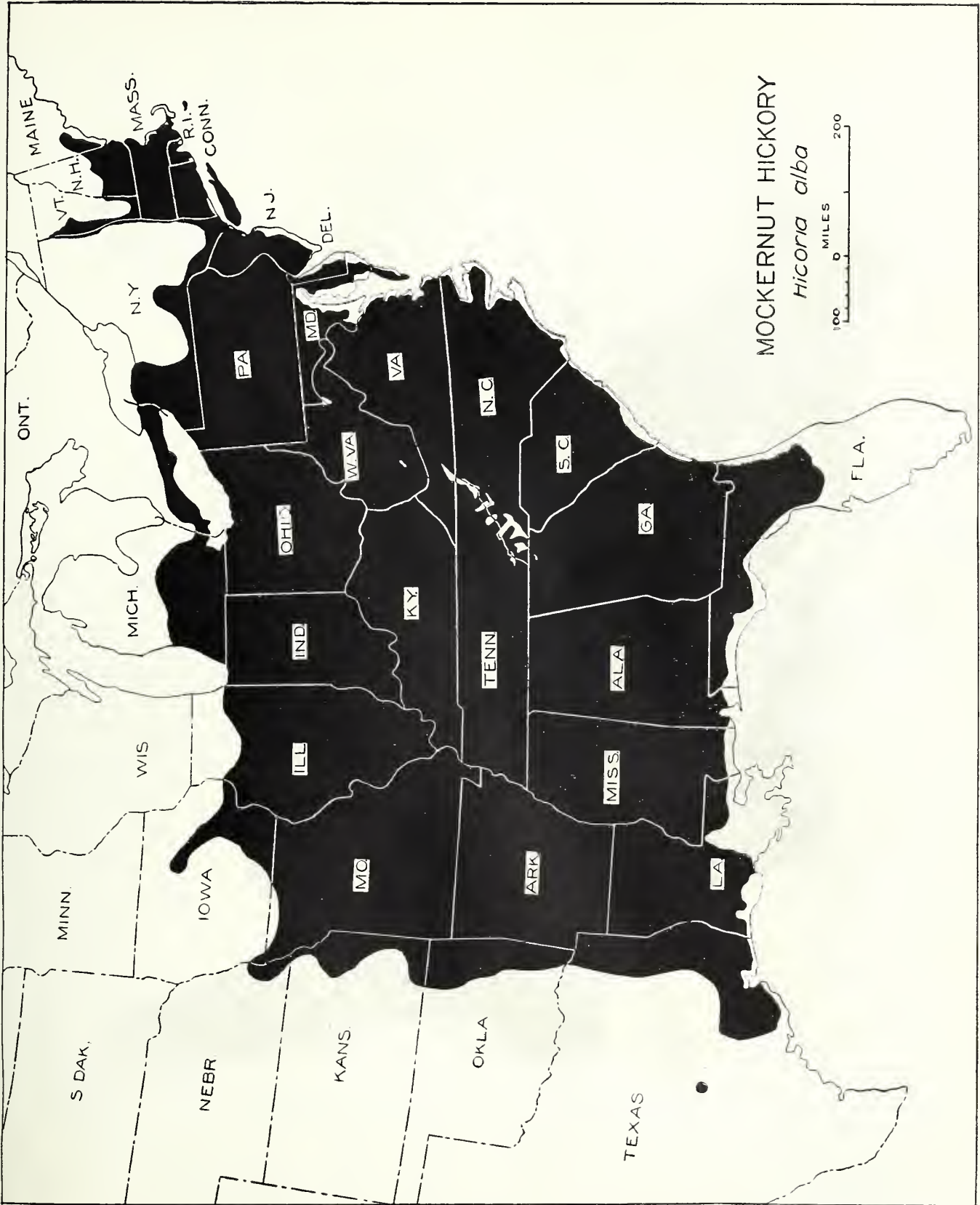
MAP 65

HICORIA OVATA (MILLER) BRITTON



BIGLEAF SHAGBARK HICKORY

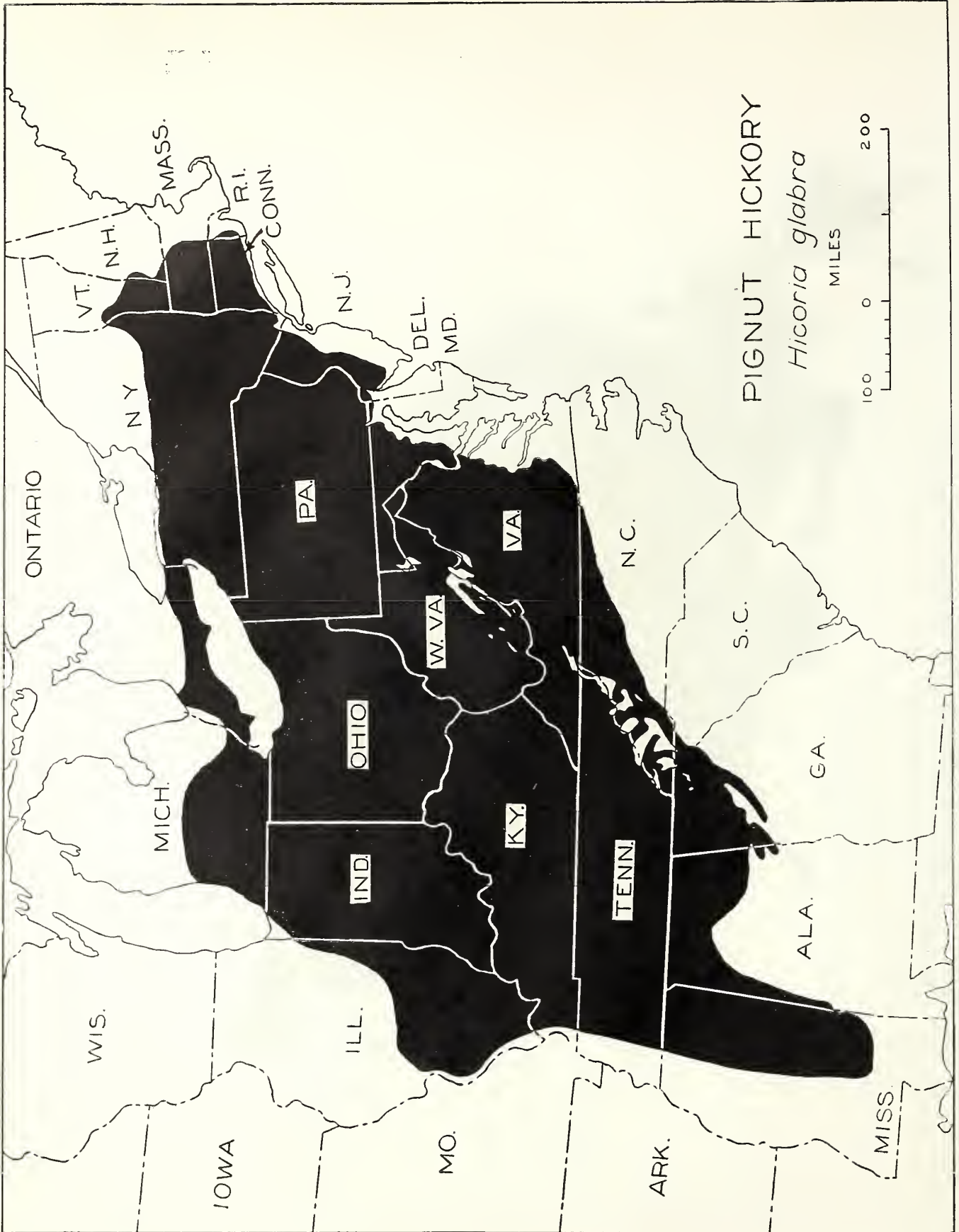
Hicoria laciniosa



MOCKERNUT HICKORY

MAP 67

HICORIA ALBA (LINNAEUS) BRITTON



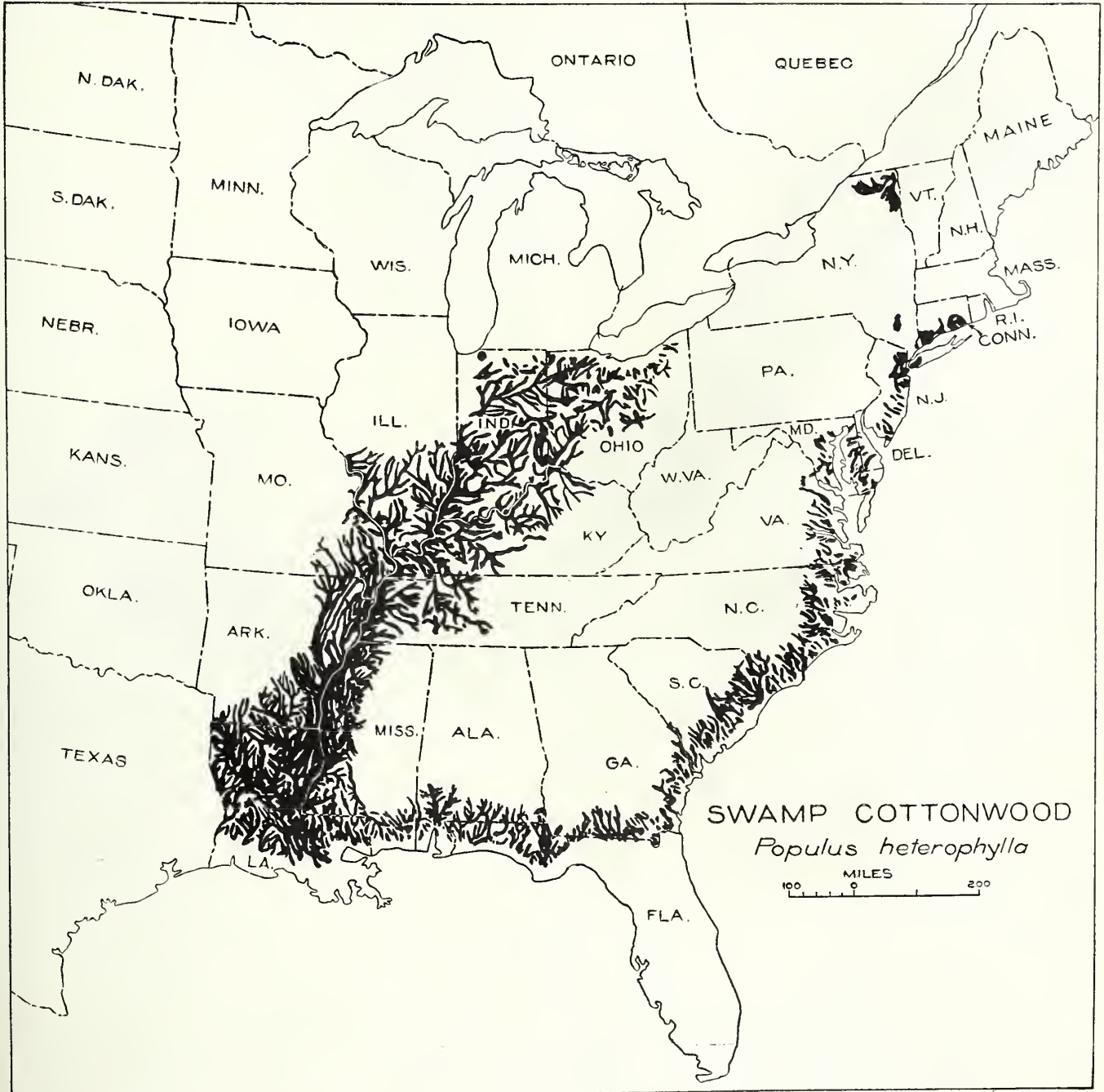


MAP 69

POPULUS TREMULOIDES MICHAUX

ASPEN

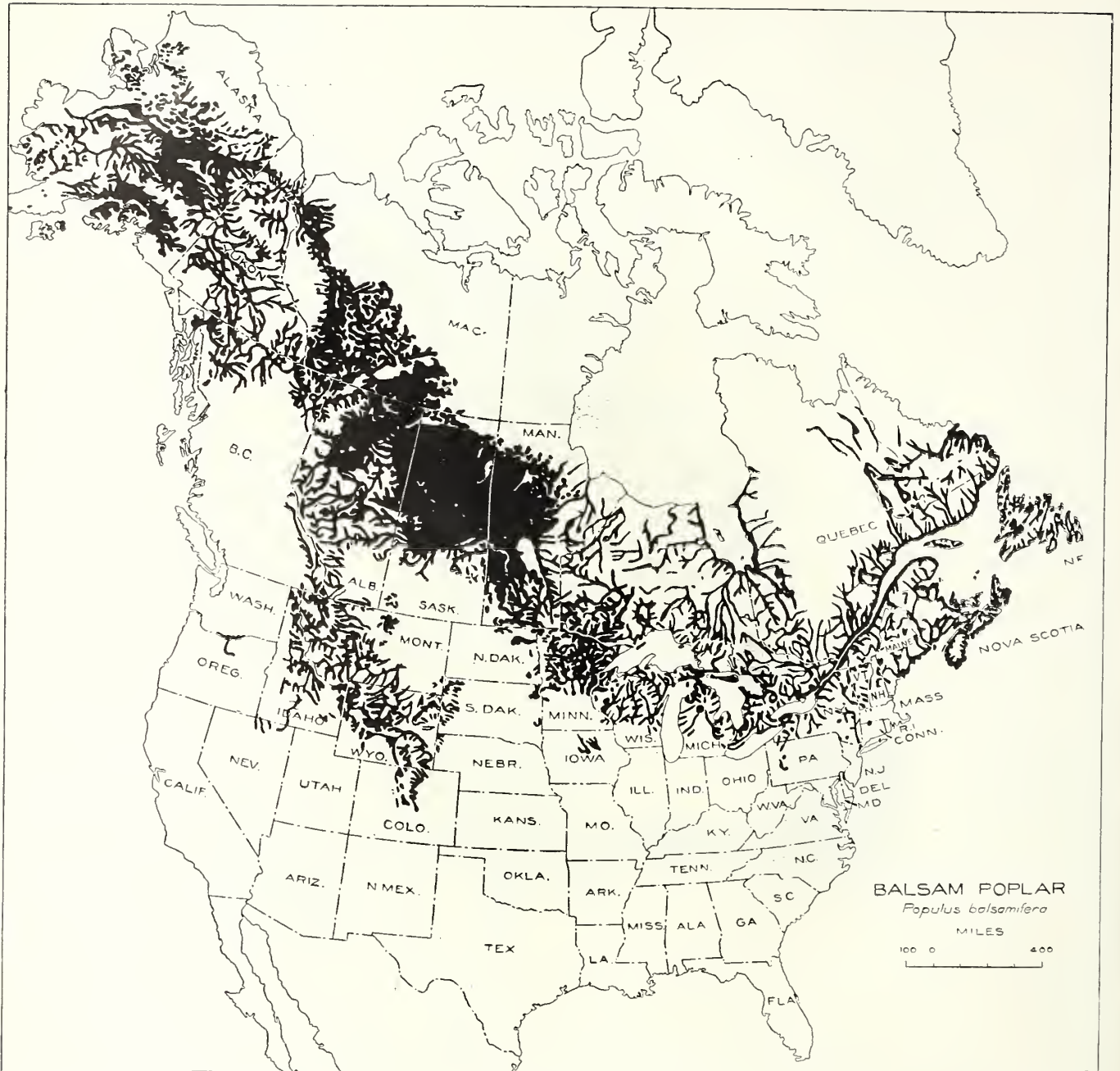
(Distribution of aspen is shown as one species, although dendrologists separate *Populus tremuloides* Michaux from *Populus tremuloides aurea* (Tidestrom) Daniels, the latter extending westward from Saskatchewan to the valley of the Yukon River and southward in the western part of the United States and Mexico.)



POPULUS HETEROPHYLLA LINNAEUS

MAP 71

SWAMP COTTONWOOD



POPULUS BALSAMIFERA LINNAEUS

MAP 72

BALSAM POPLAR

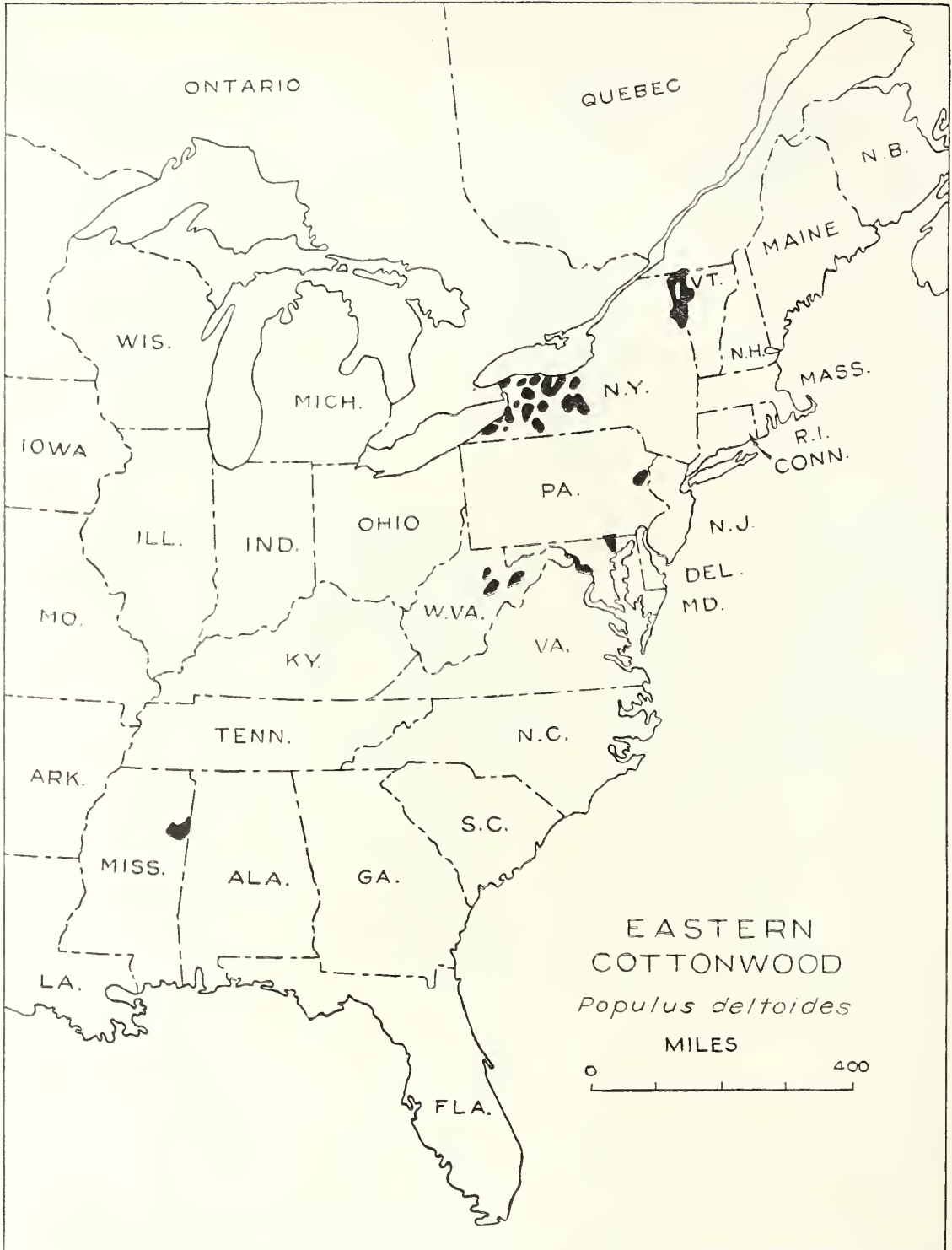


POPULUS TRICHOCARPA TORREY AND GRAY

MAP 73

BLACK COTTONWOOD

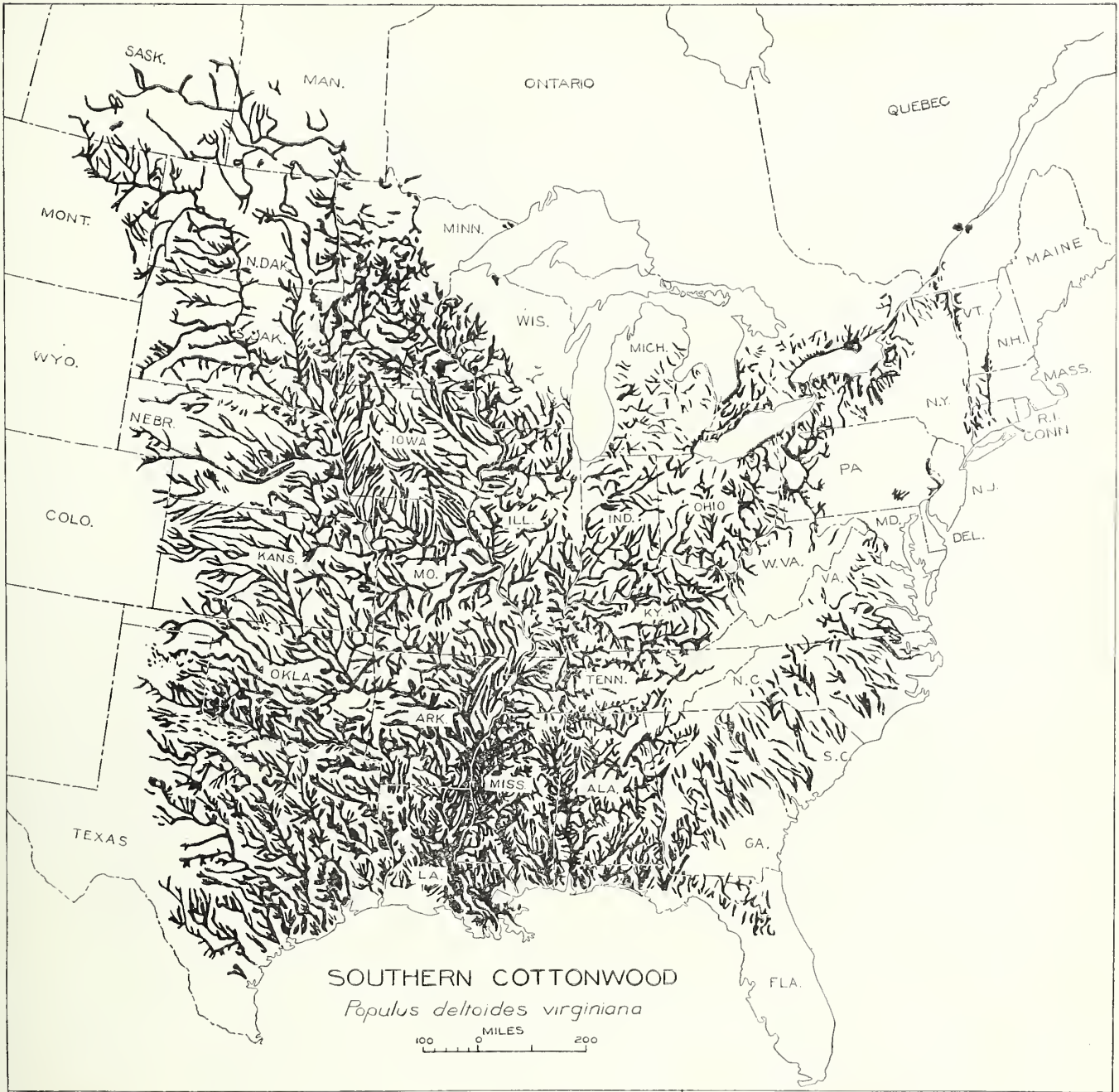
(Distribution of black cottonwood is shown as one species, although dendrologists separate black cottonwood (*Populus trichocarpa* Torrey and Gray) from the northern black cottonwood (*Populus trichocarpa hastata* Henry), the latter extending northward from the California line and into Nevada.)



POPULUS DELTOIDES MARSHALL

MAP 74

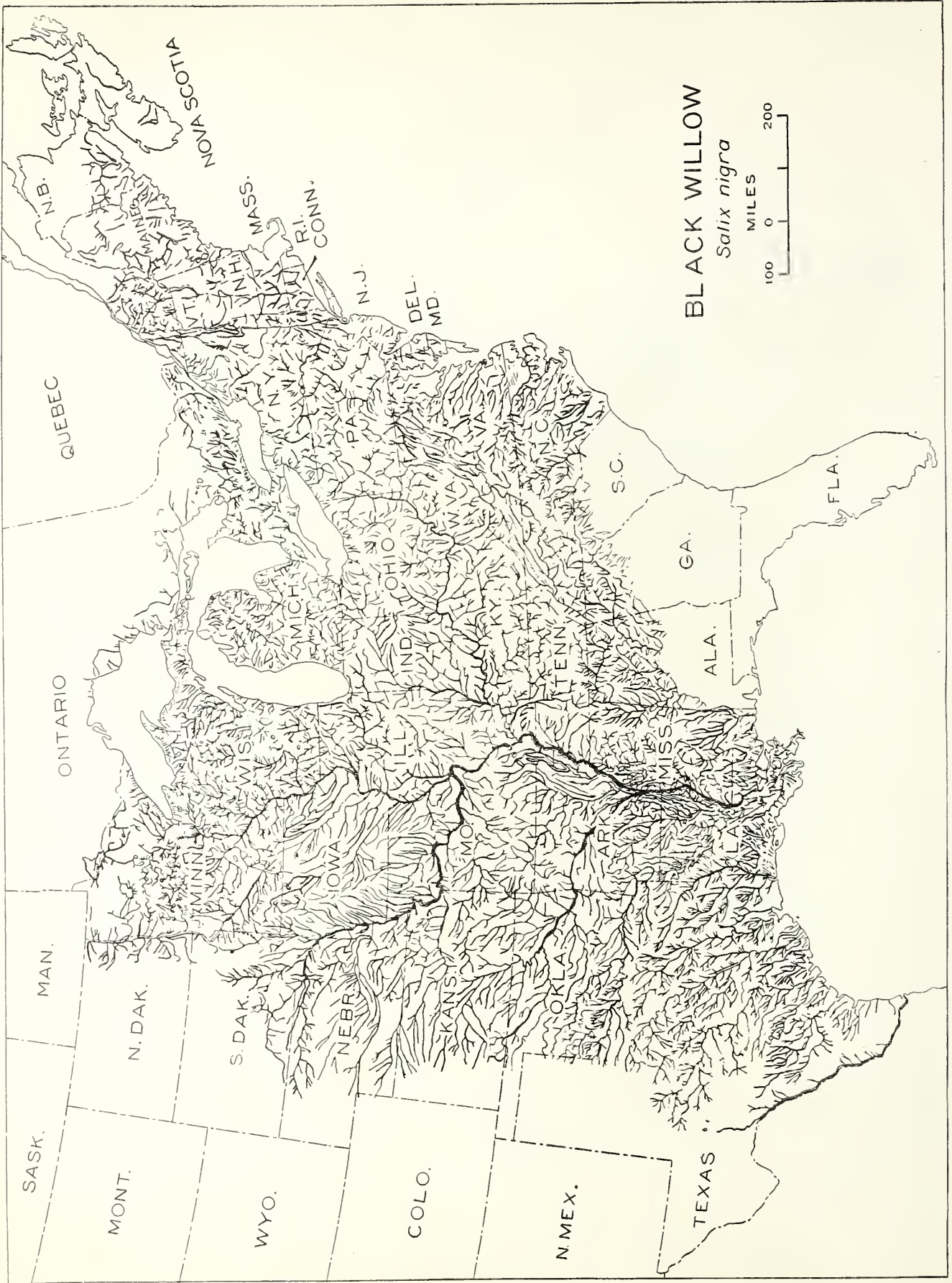
EASTERN COTTONWOOD



MAP 75

POPULUS DELTOIDES VIRGINIANA (CASTIGLIONI) SUDWORTH

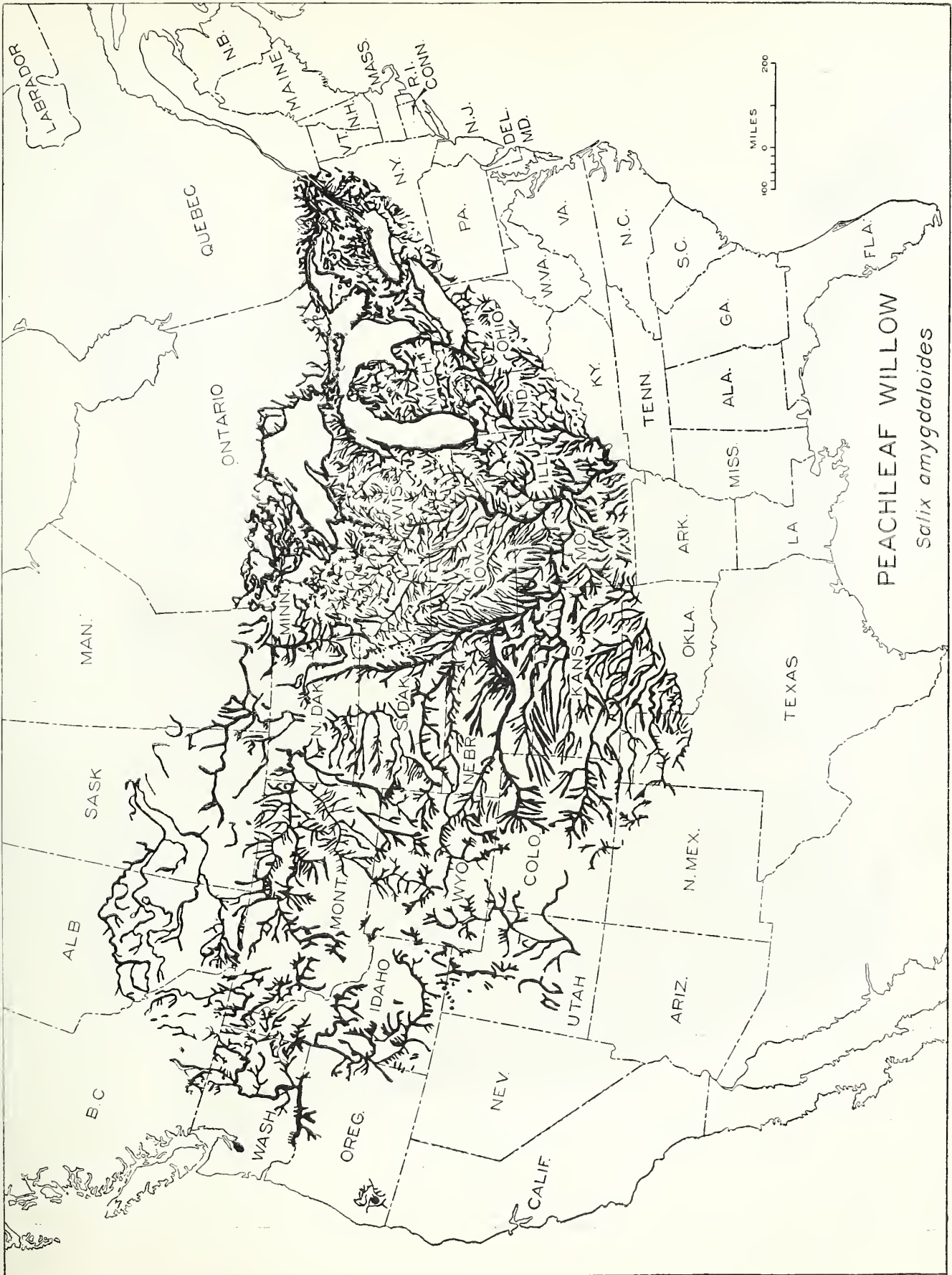
SOUTHERN COTTONWOOD



BLACK WILLOW

MAP 76

SALIX NIGRA MARSHALL

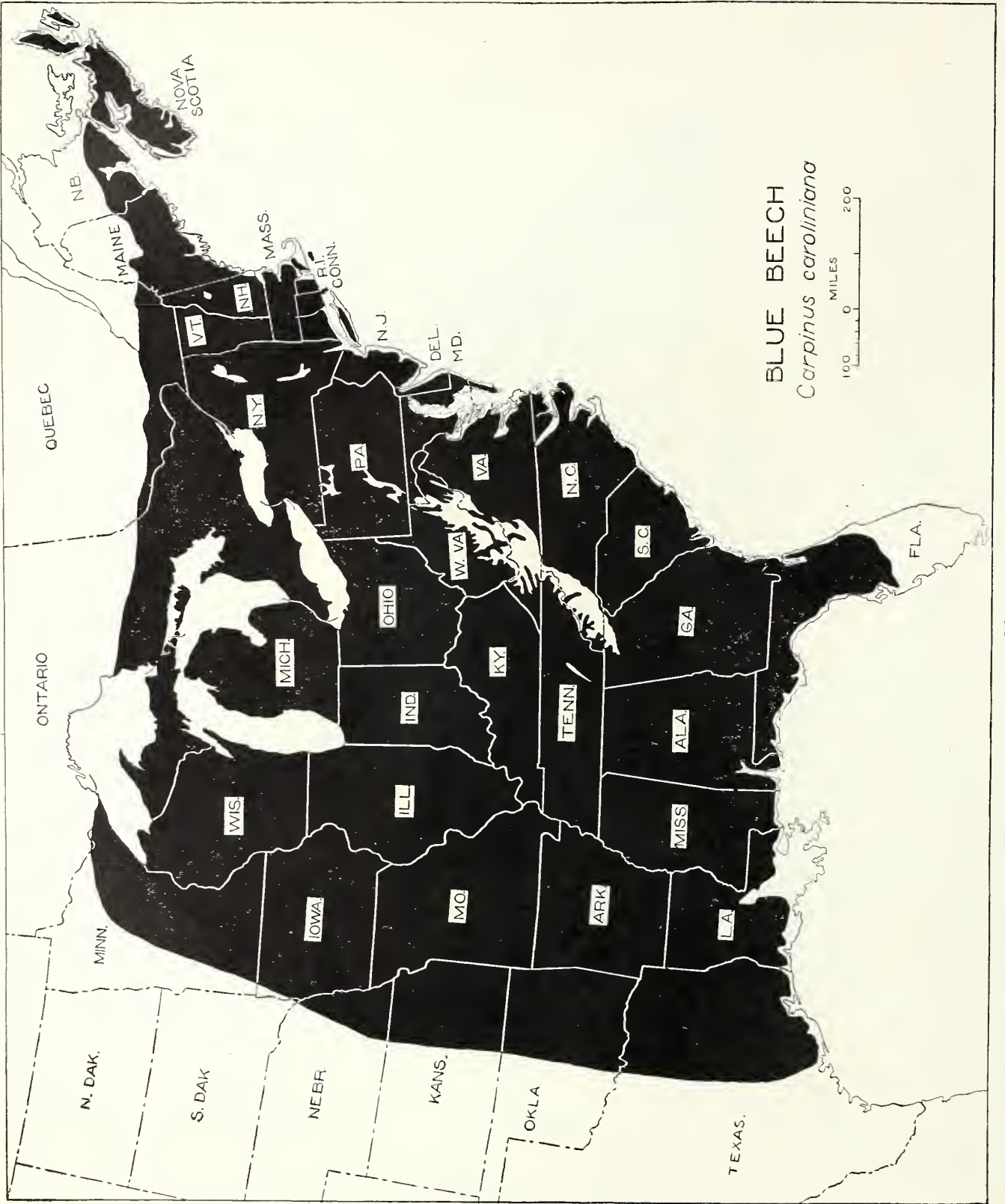


PEACHLEAF WILLOW
Salix amygdaloides

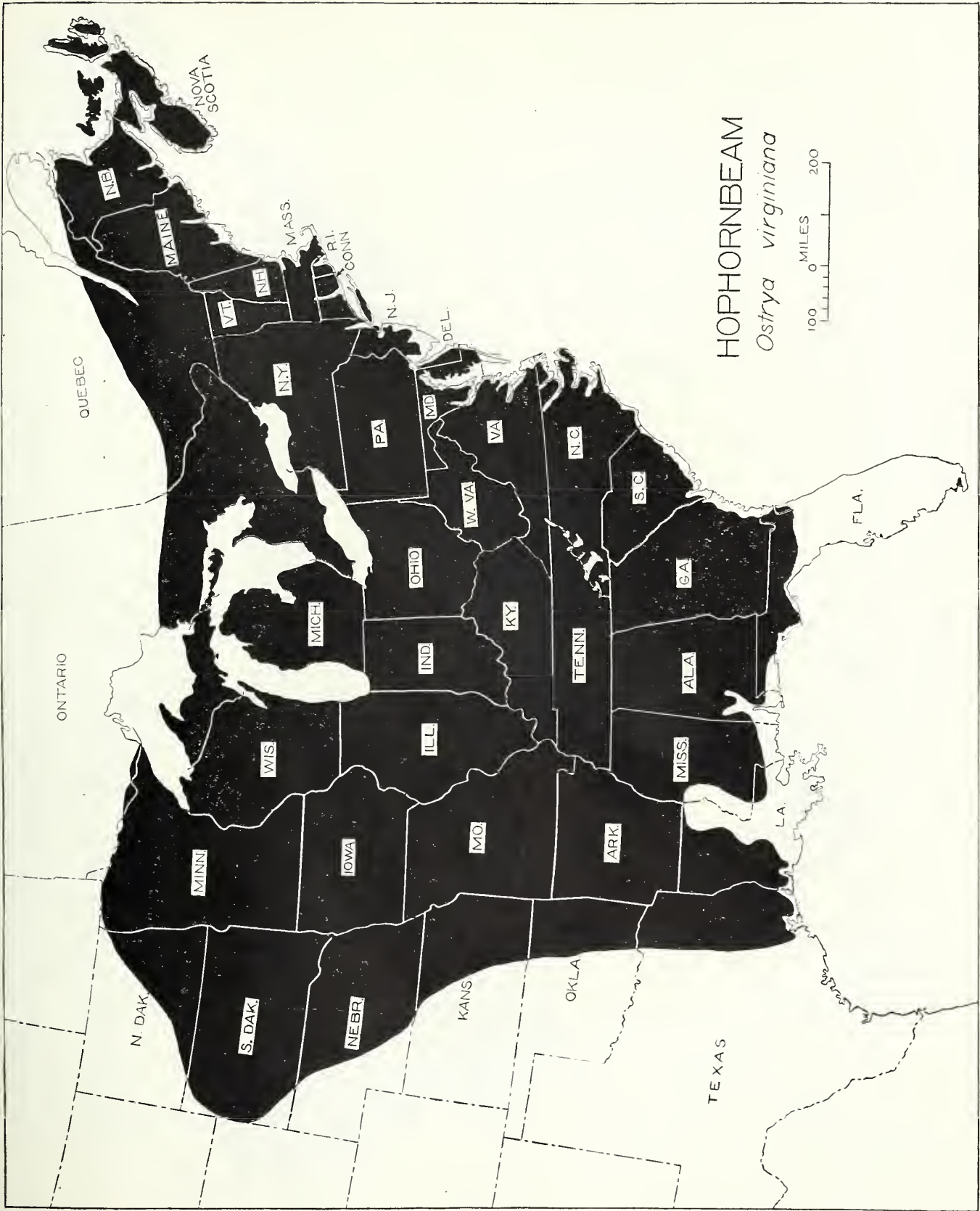
PEACHLEAF WILLOW

MAP 77

SALIX AMYGDALOIDES ANDERSSON



BLUE BEECH
Carpinus caroliniana

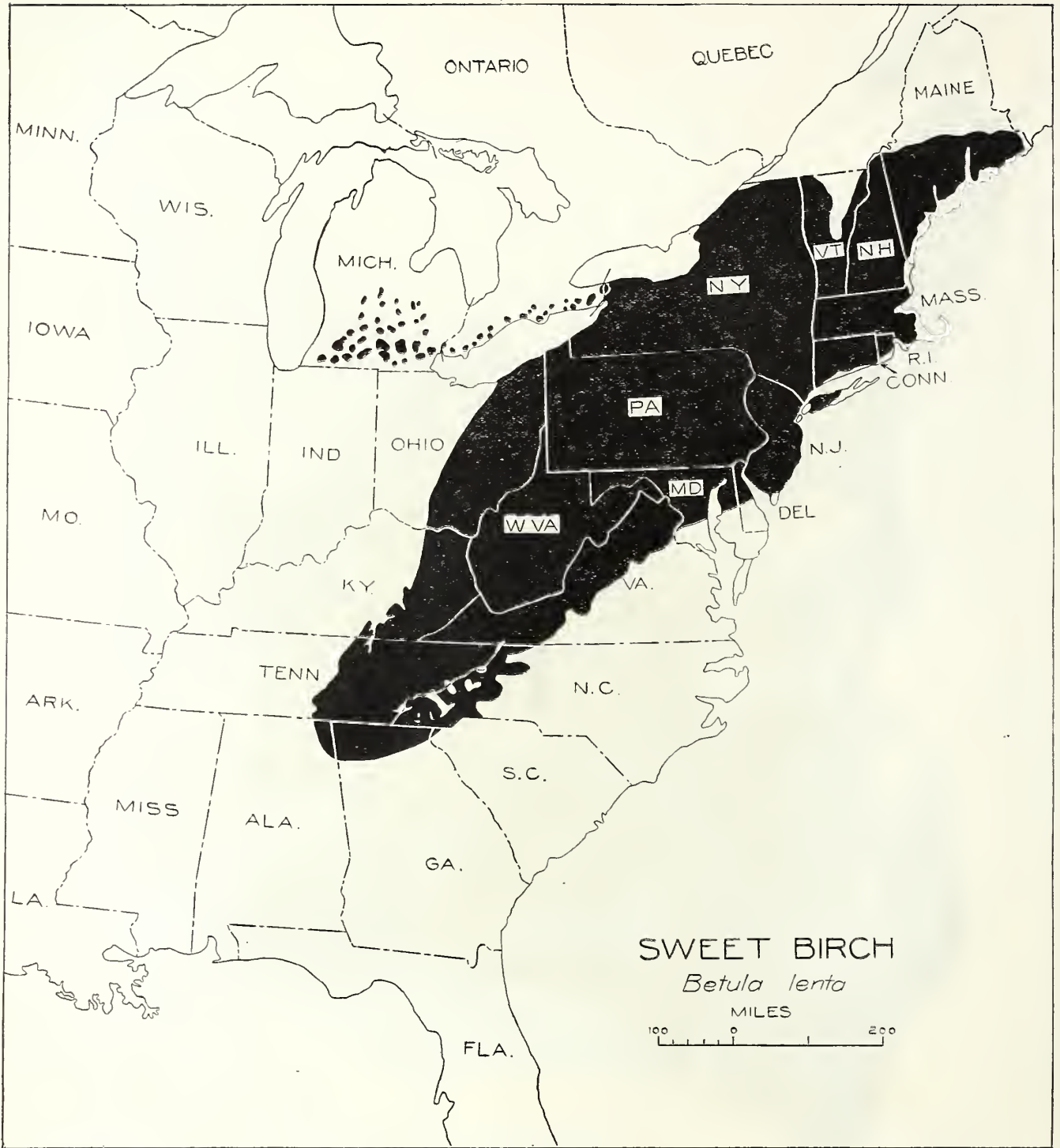


HOPHORNBEAM
Ostrya virginiana

HOPHORNBEAM

MAP 79

OSTRYA VIRGINIANA (MILLER) K. KOCH

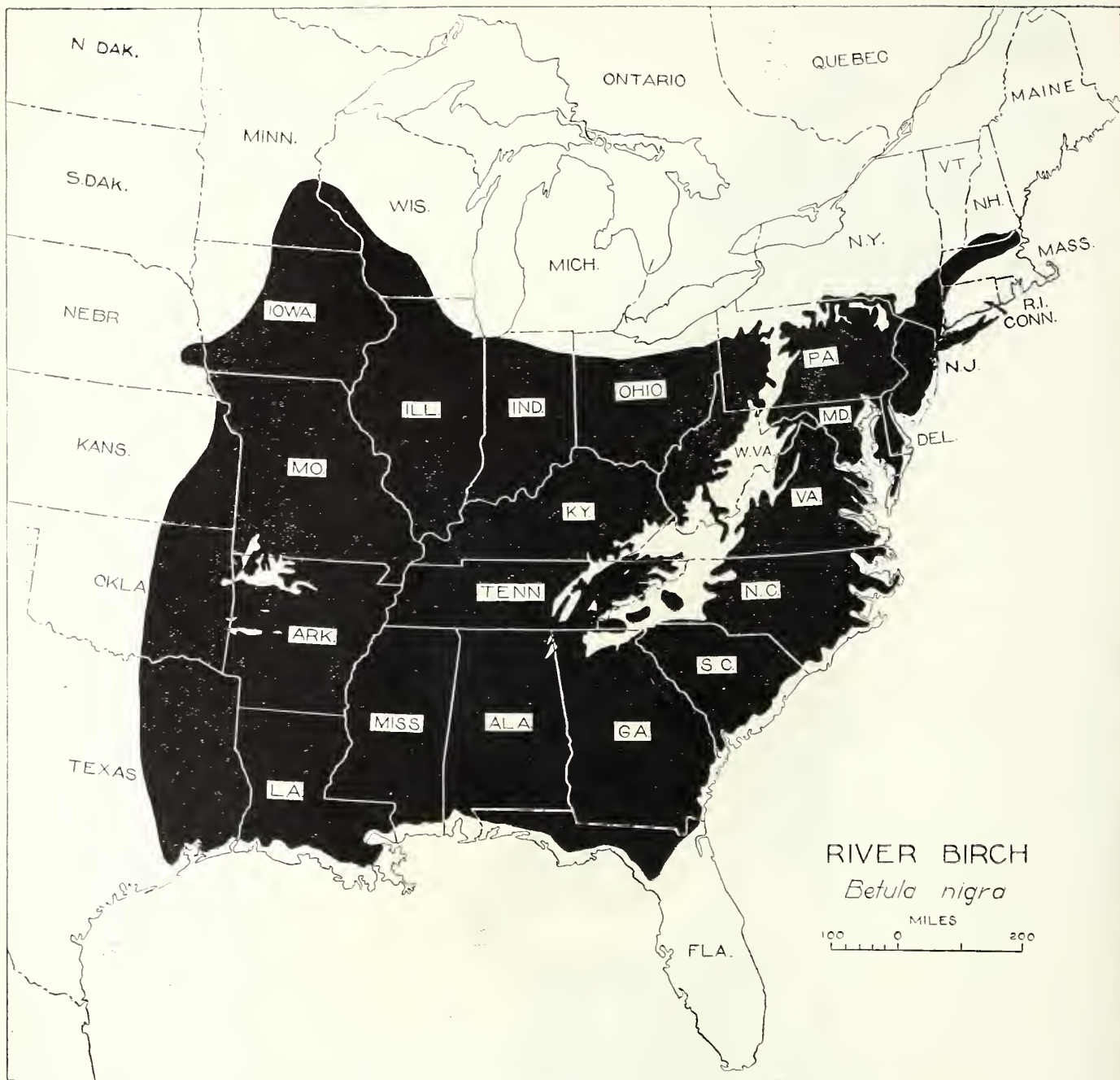




YELLOW BIRCH

MAP 81

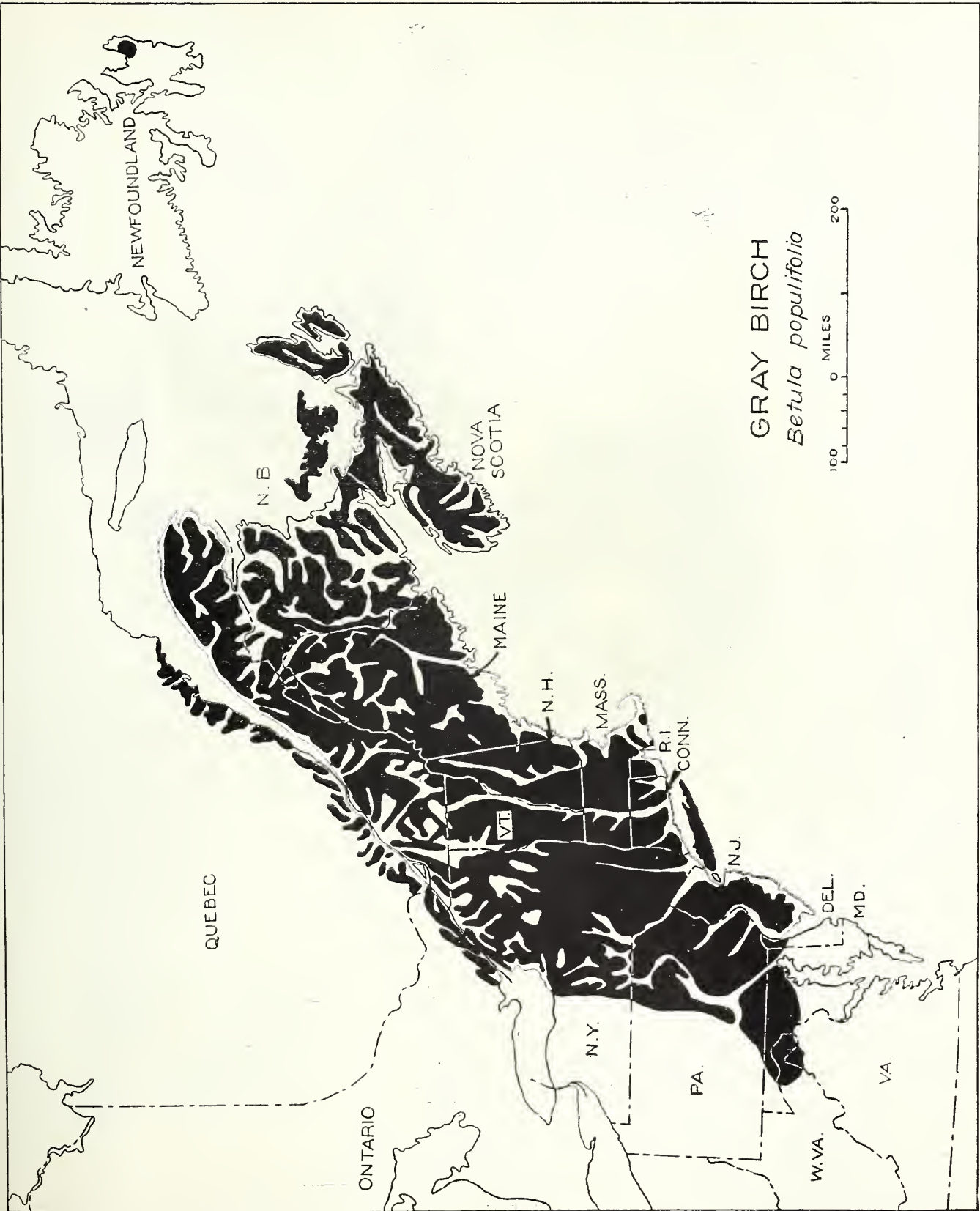
BETULA LUTEA MICHAUX FILIUS



BETULA NIGRA LINNAEUS

MAP 82

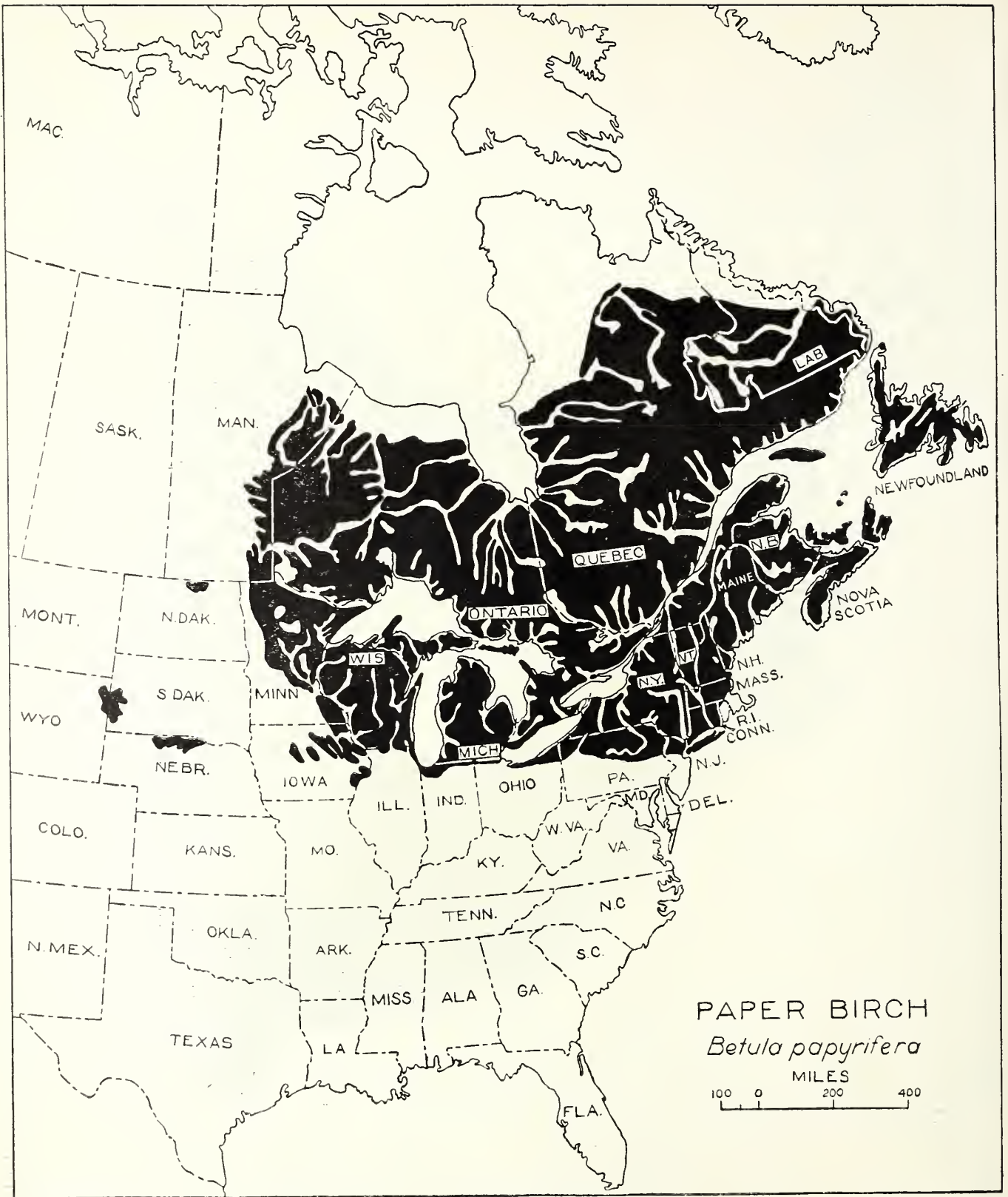
RIVER BIRCH

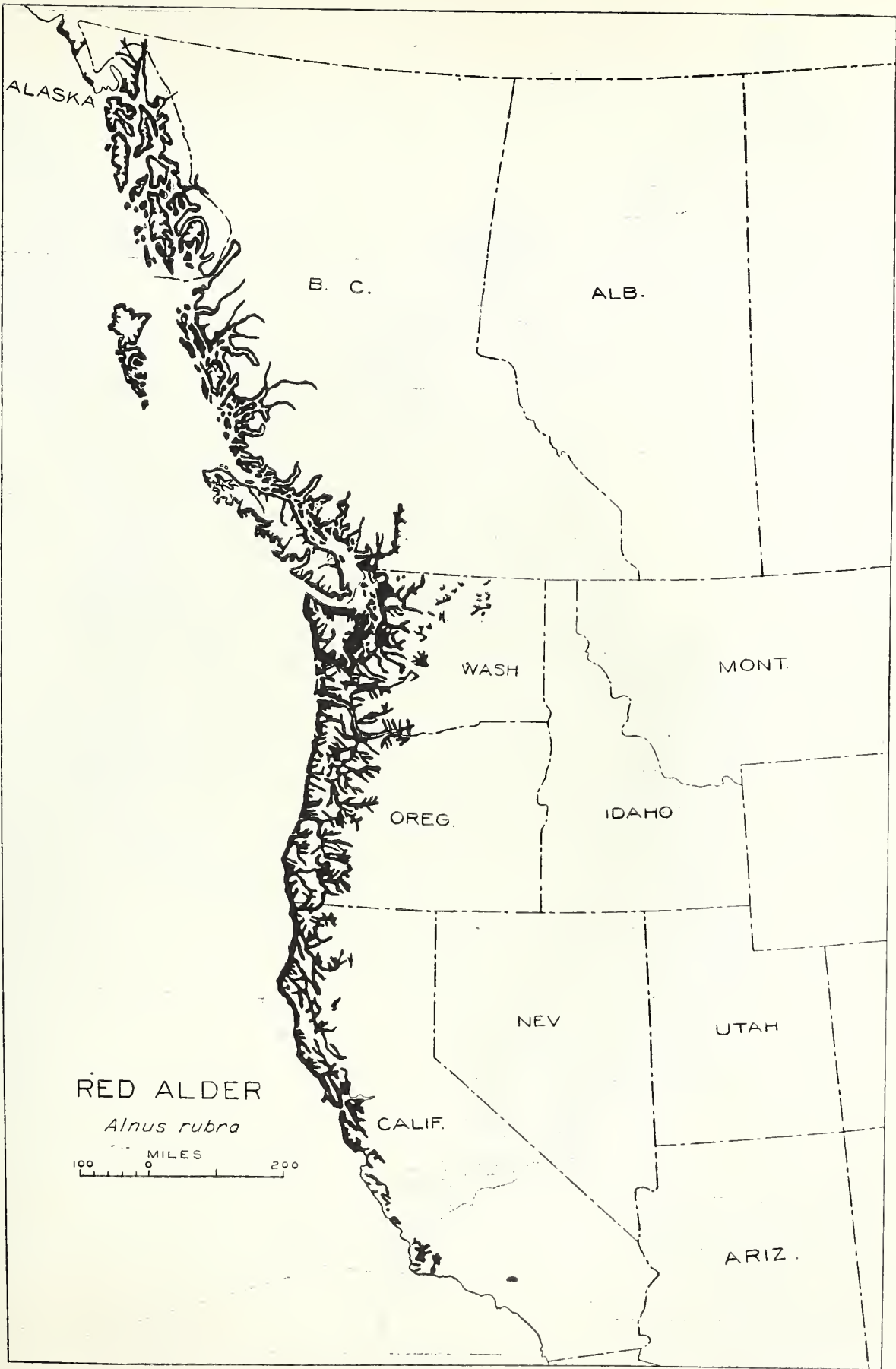


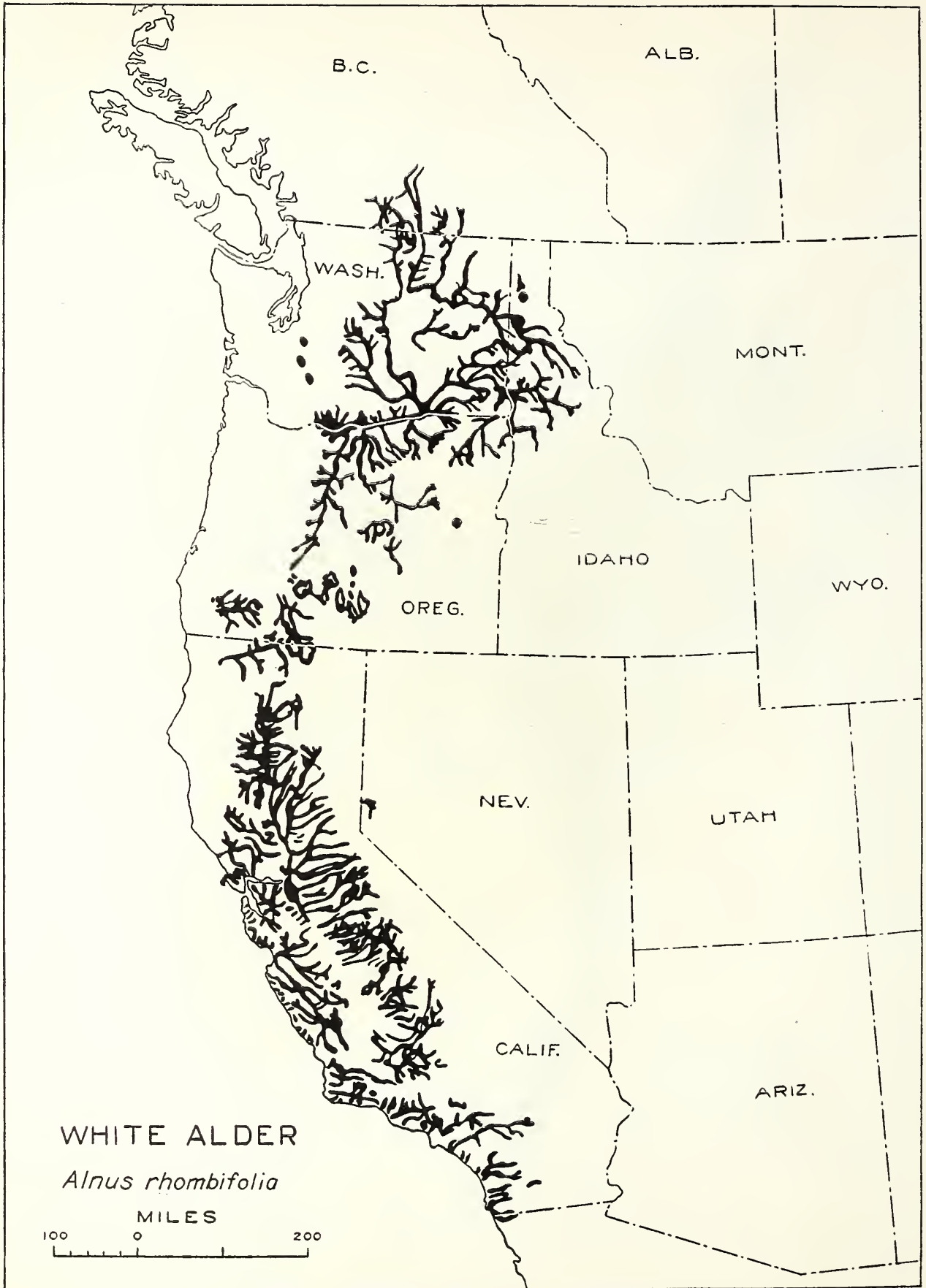
GRAY BIRCH

MAP 83

BETULA POPULIFOLIA MARSHALL







WHITE ALDER
Alnus rhombifolia

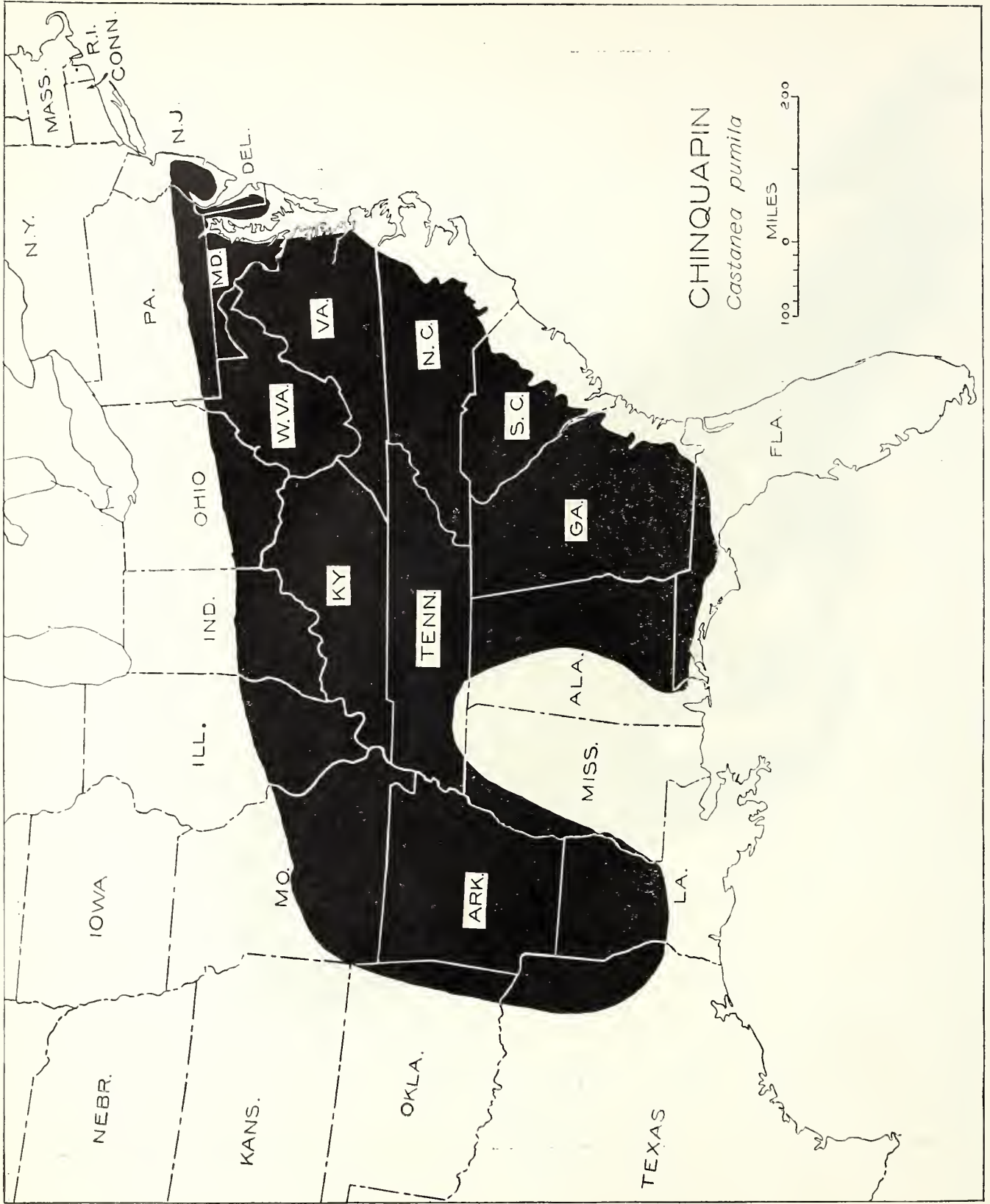




BEECH

MAP 87

FAGUS GRANDIFOLIA EHRLHART

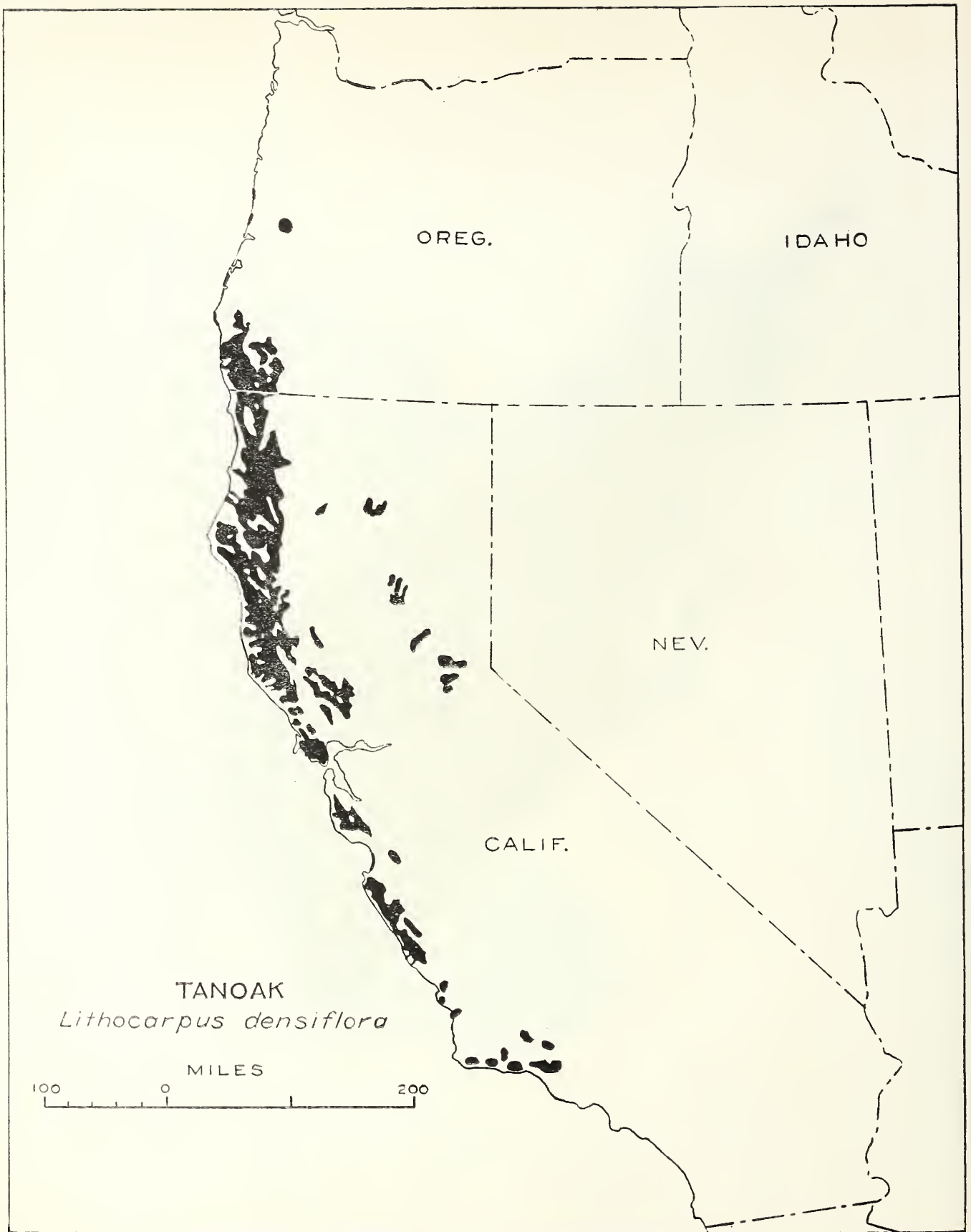




CHESTNUT

MAP 89

CASTANEA DENTATA (MARSHALL) BORKHAUSEN



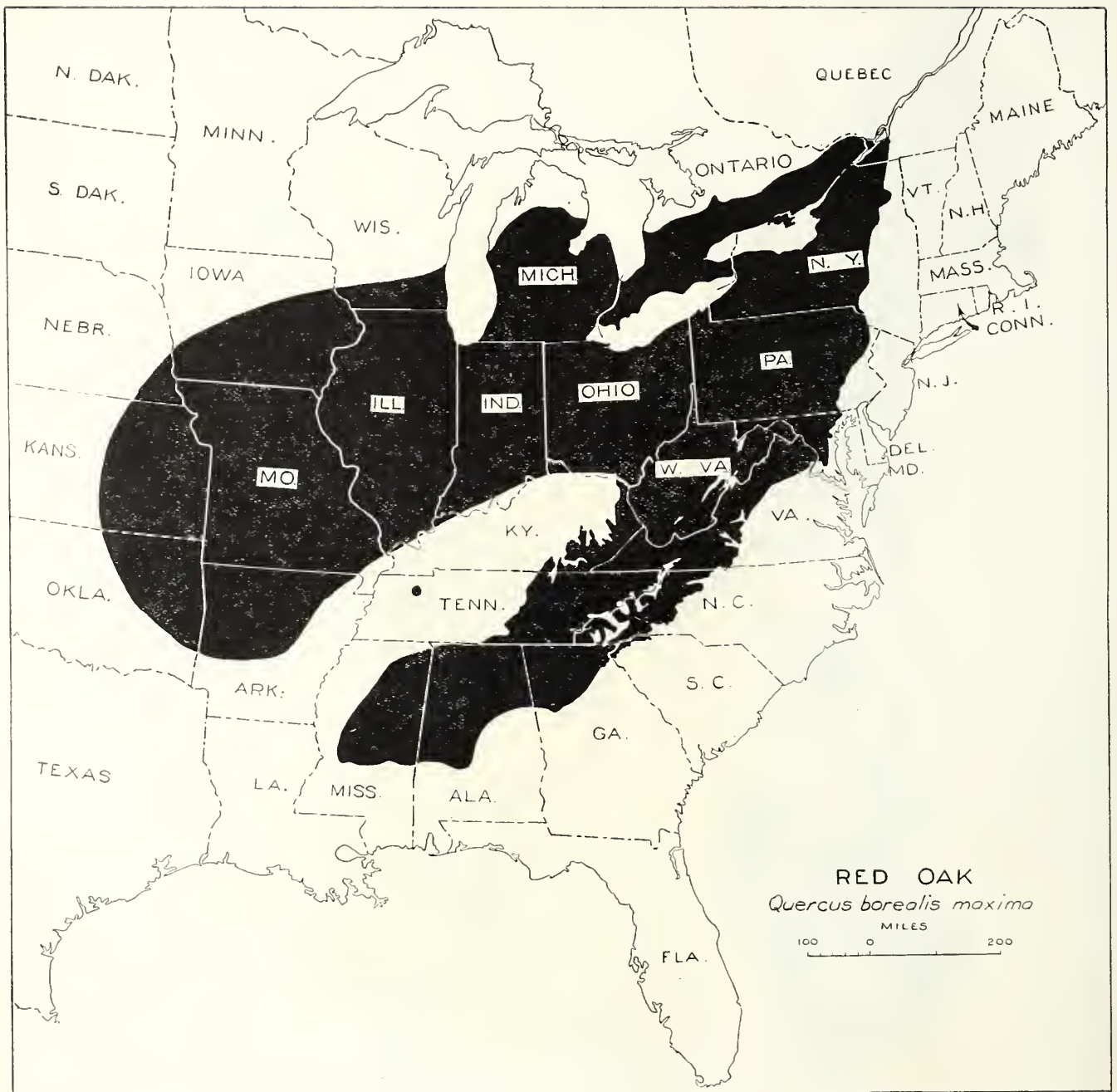
MAP 90



RED OAK

MAP 91

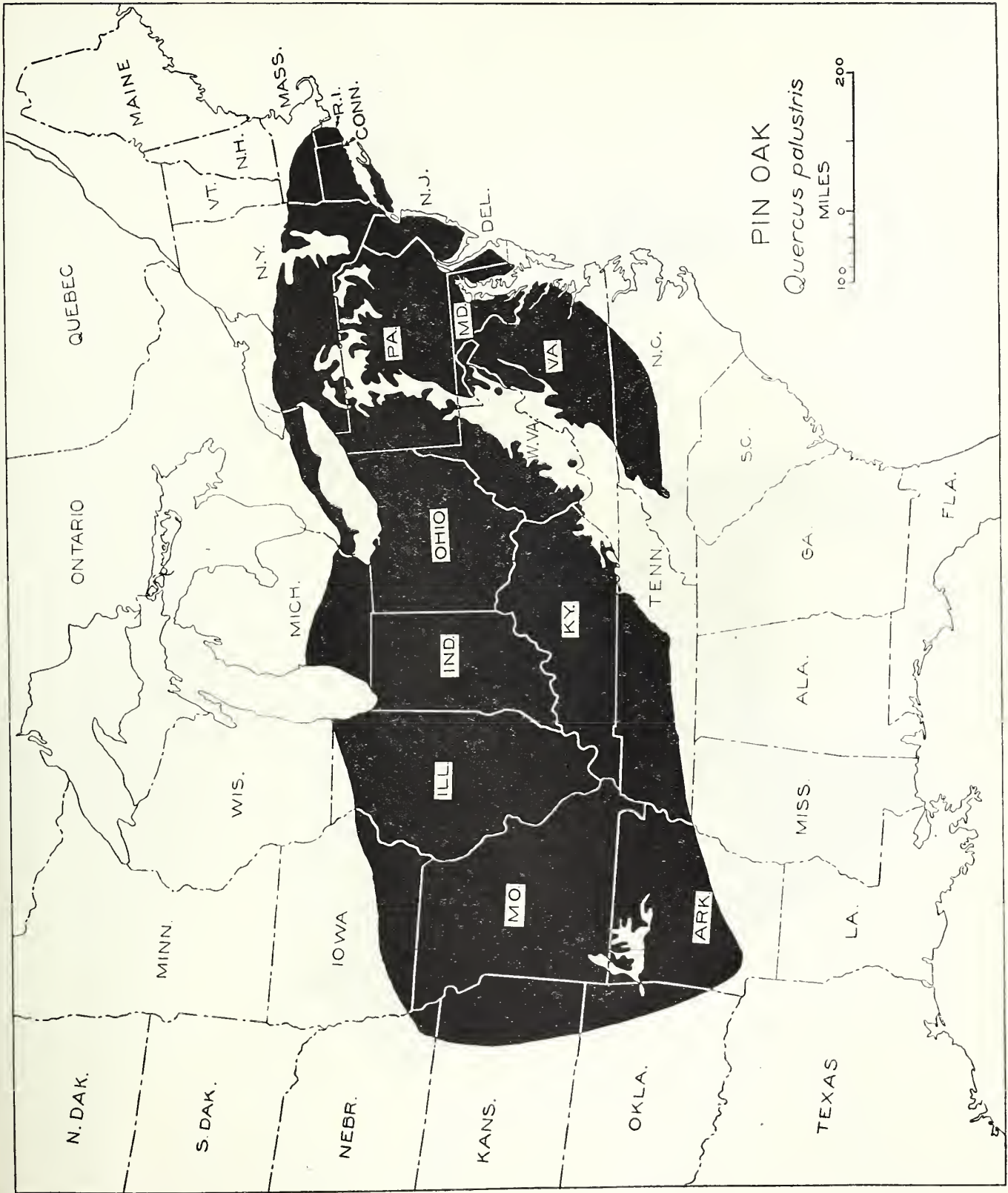
QUERCUS BOREALIS MICHAUX FILIUS



QUERCUS BOREALIS MAXIMA (MARSHALL) ASHF

MAP 92

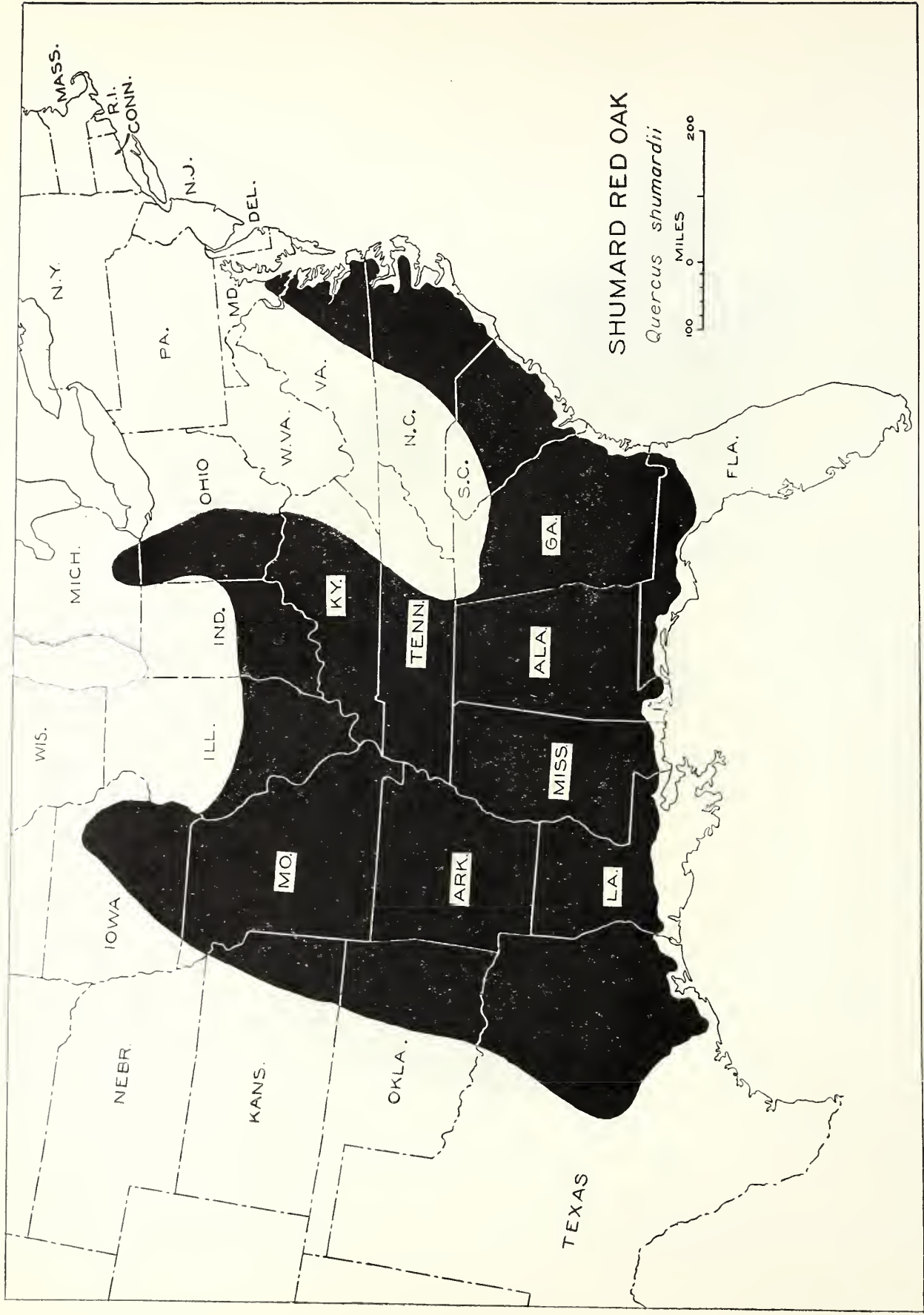
RED OAK



PIN OAK

MAP 93

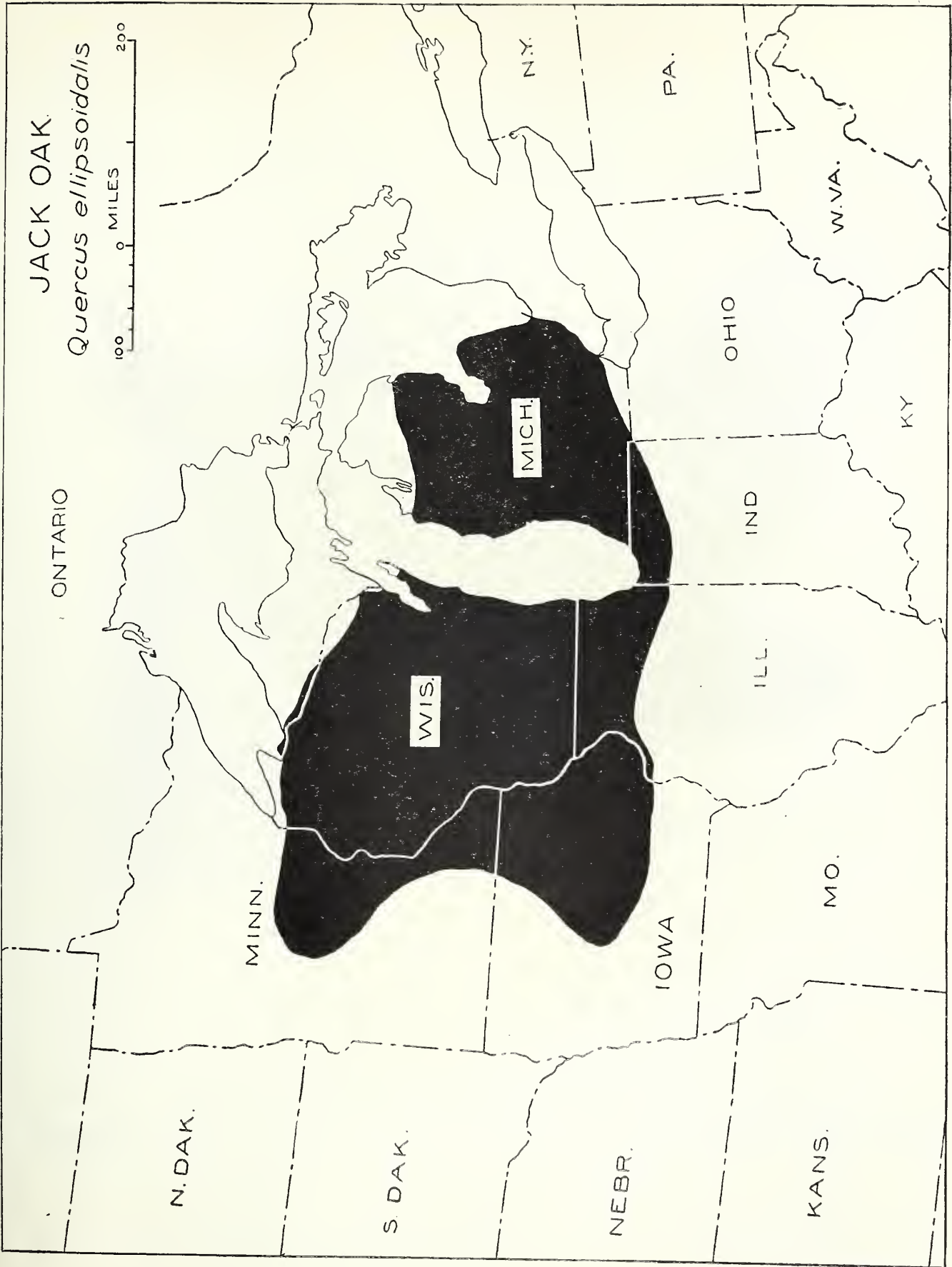
QUERCUS PALUSTRIS MUENCHHAUSEN

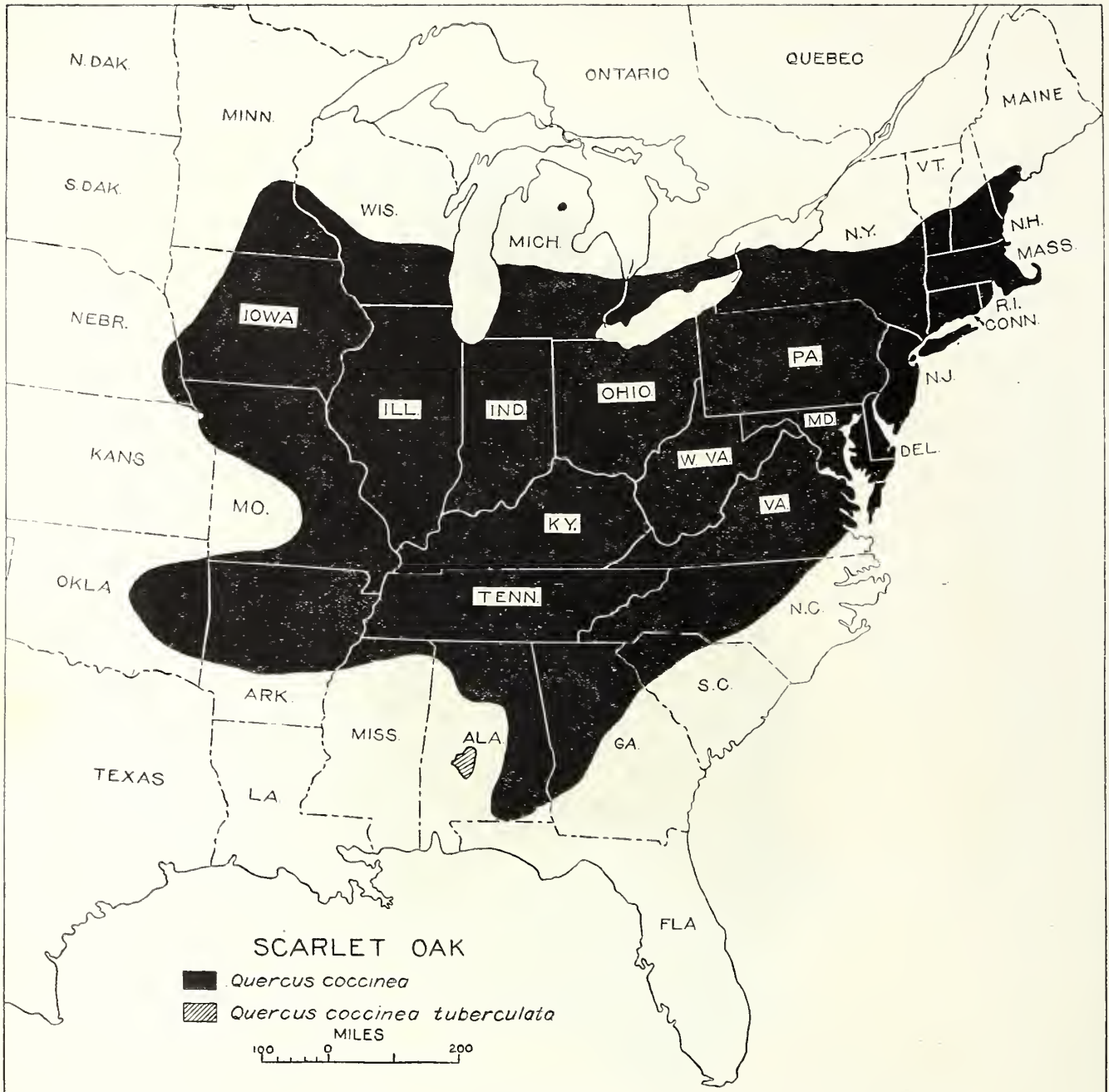


SHUMARD RED OAK

Quercus shumardii

100 0 200
MILES

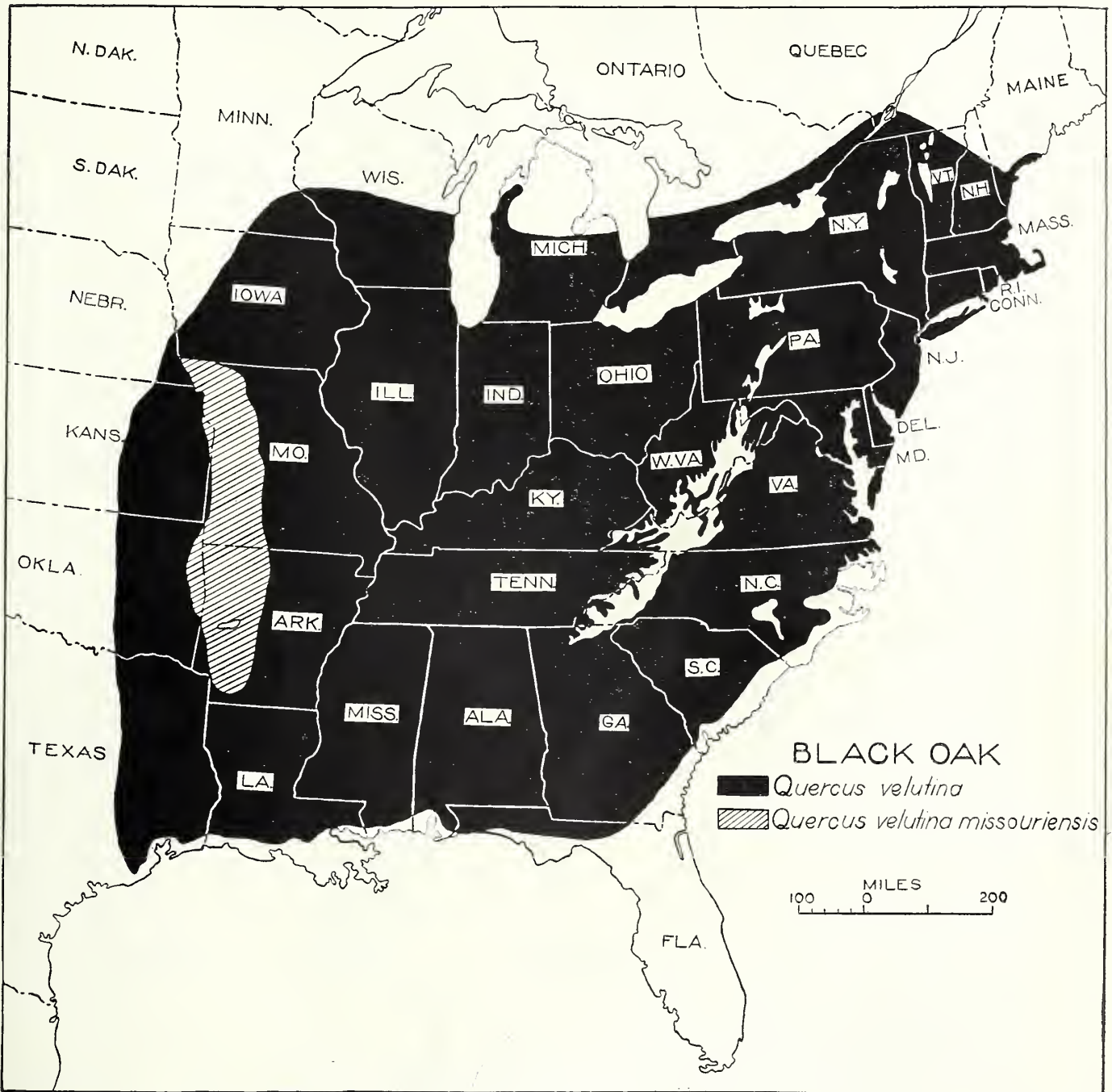




QUERCUS COCCINEA MUENCHHAUSEN
QUERCUS COCCINEA TUBERCULATA SARGENT

MAP 96

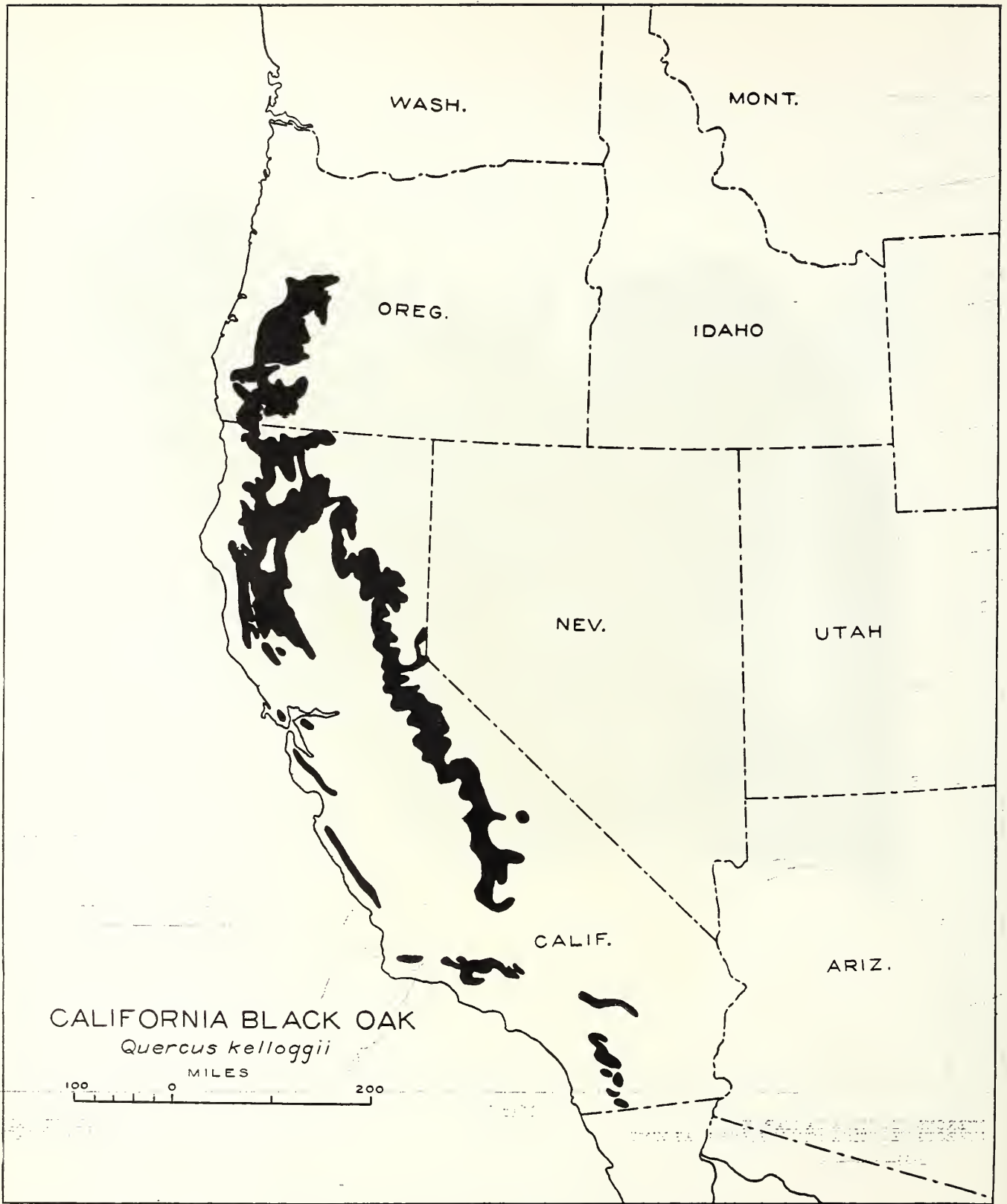
SCARLET OAK
SCARLET OAK

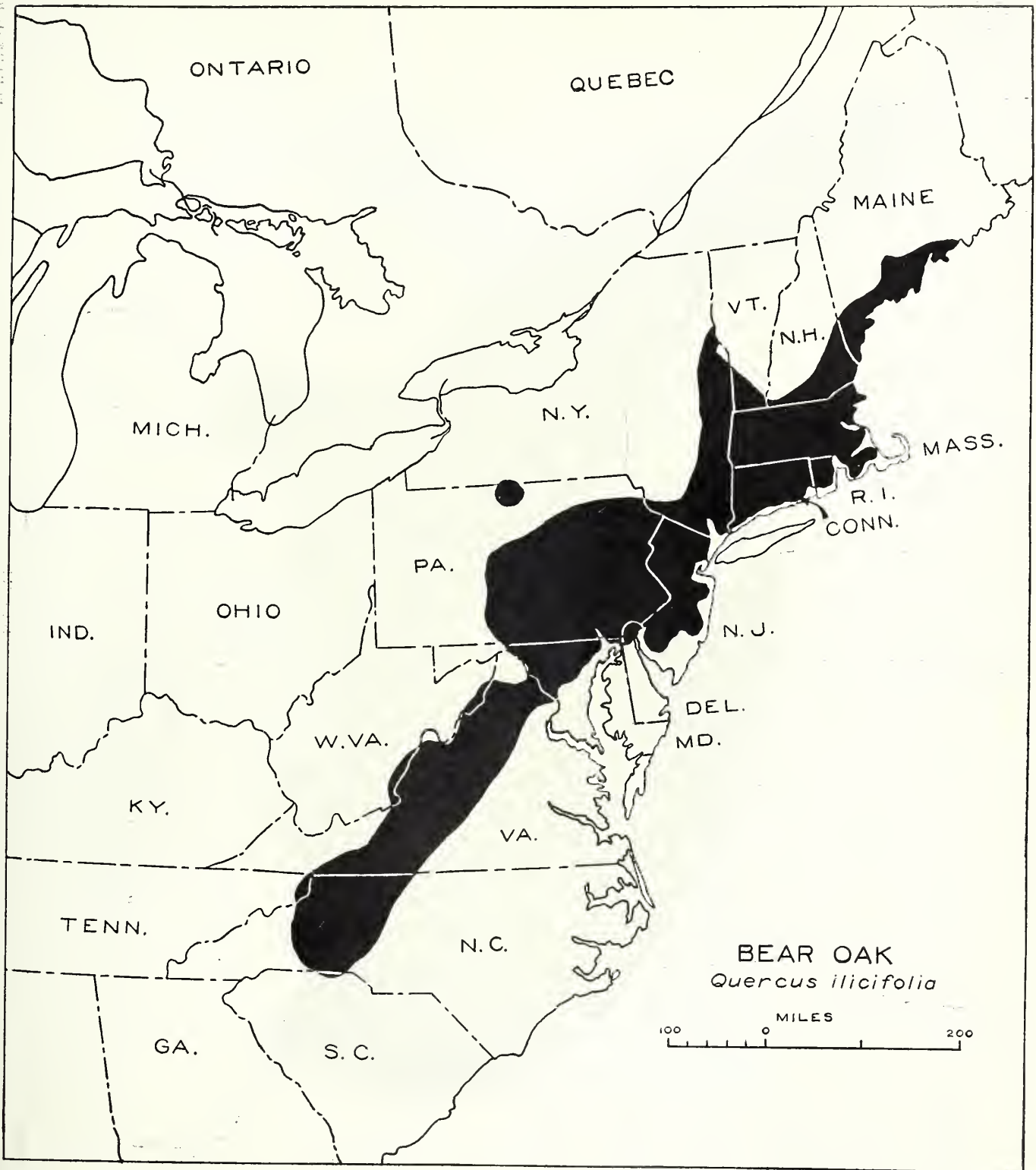


MAP 97

QUERCUS VELUTINA LA MARCK
QUERCUS VELUTINA MISSOURIENSIS SARGENT

BLACK OAK
BLACK OAK

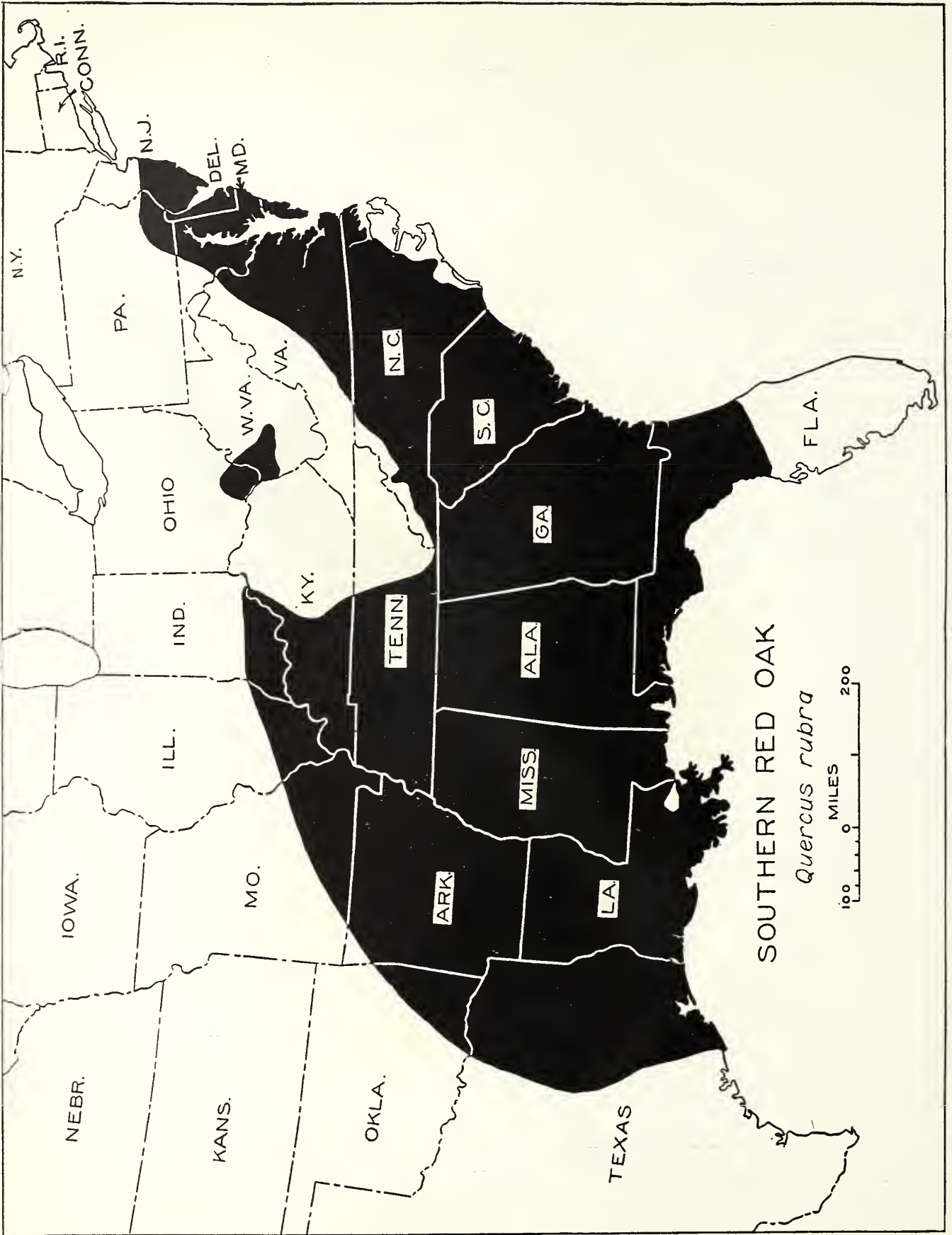


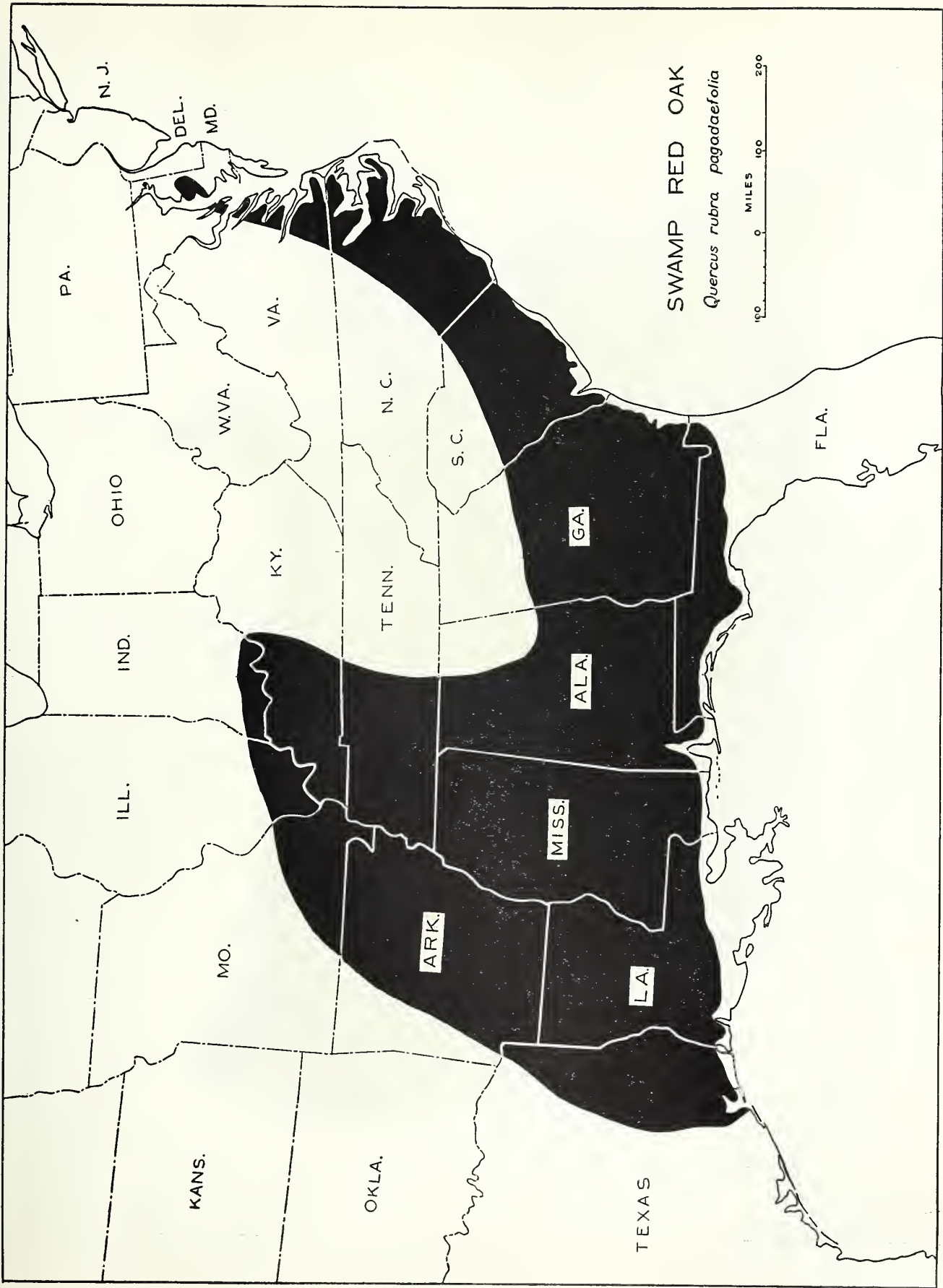


QUERCUS ILICIFOLIA WANGENHEIM

MAP 99

BEAR OAK

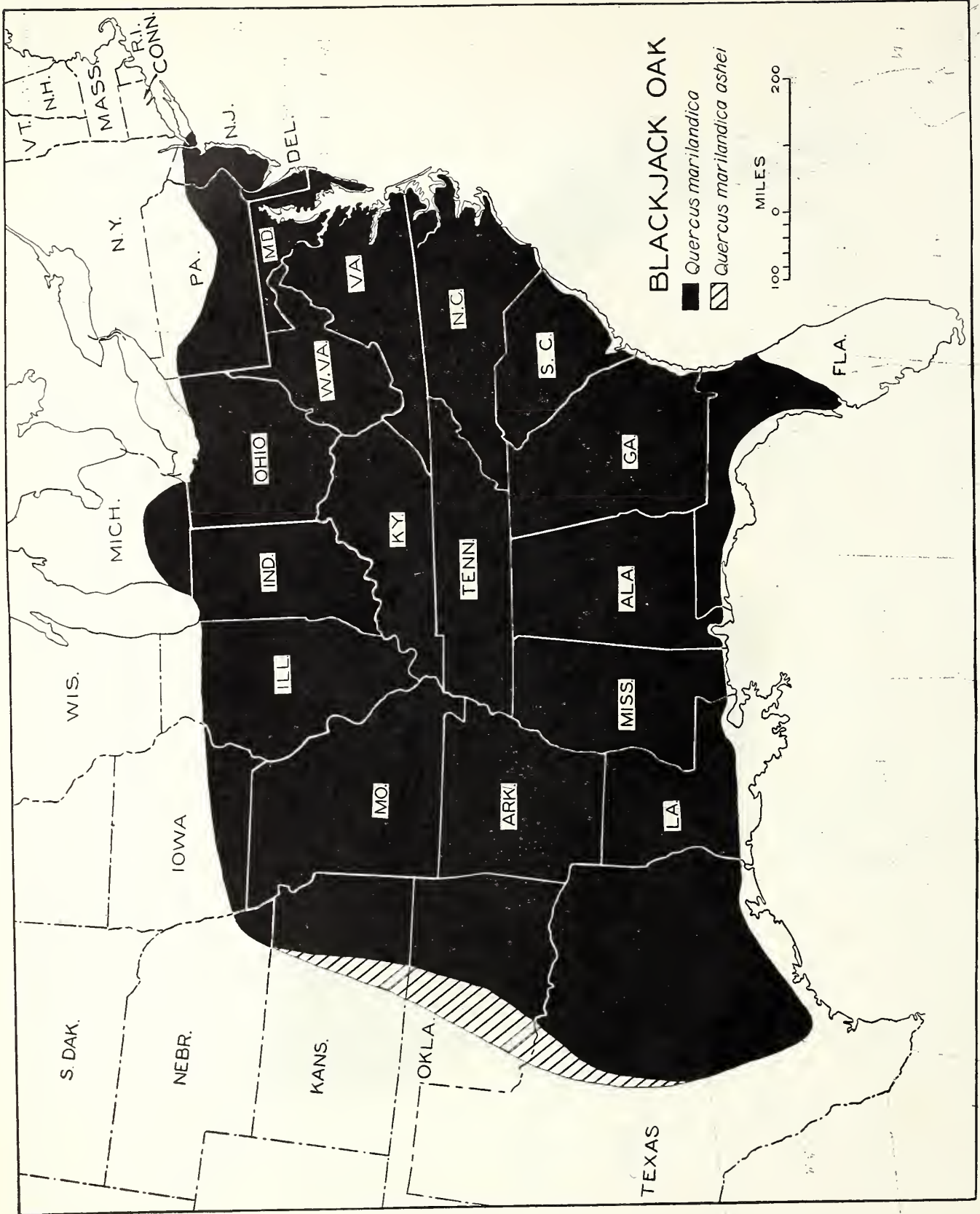




SWAMP RED OAK

MAP 101

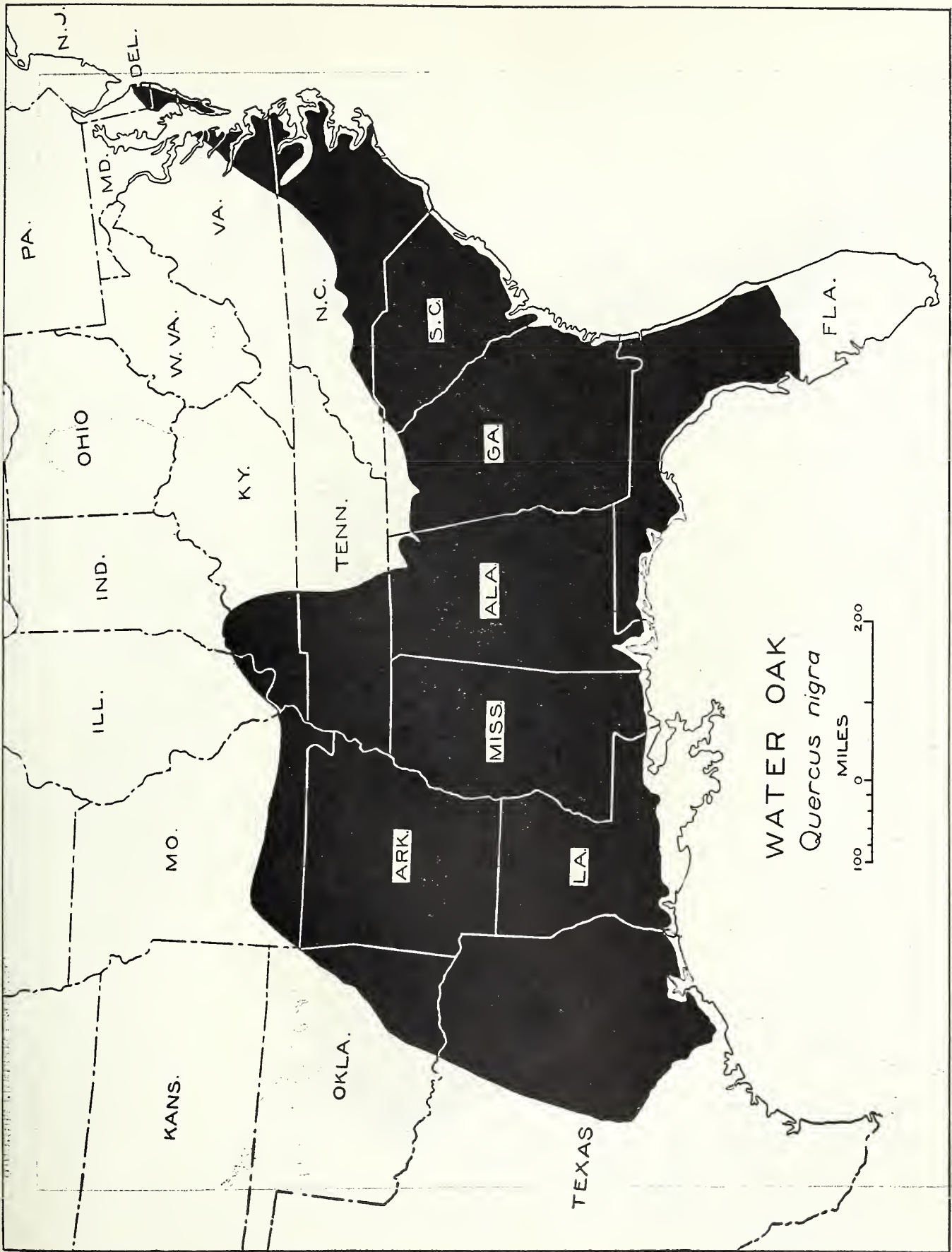
QUERCUS RUBRA PAGODAEFOLIA (ELLIOTT) ASHE



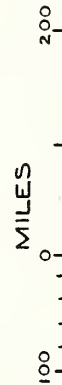
BLACKJACK OAK
BLACKJACK OAK

MAP 102

QUERCUS MARILANDICA MUENCHHAUSEN
QUERCUS MARILANDICA ASHEI SUDWORTH



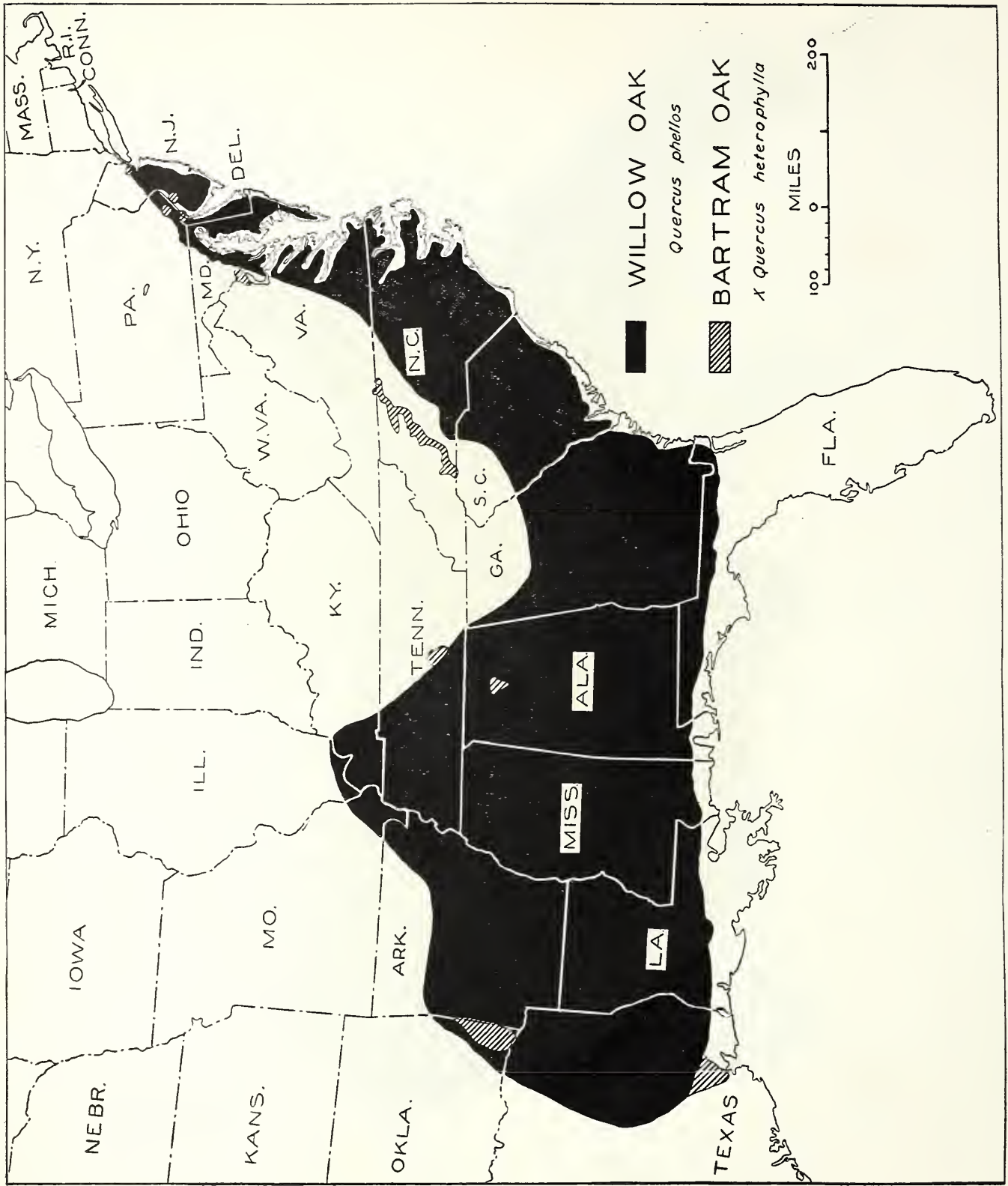
WATER OAK
Quercus nigra



WATER OAK

MAP 103

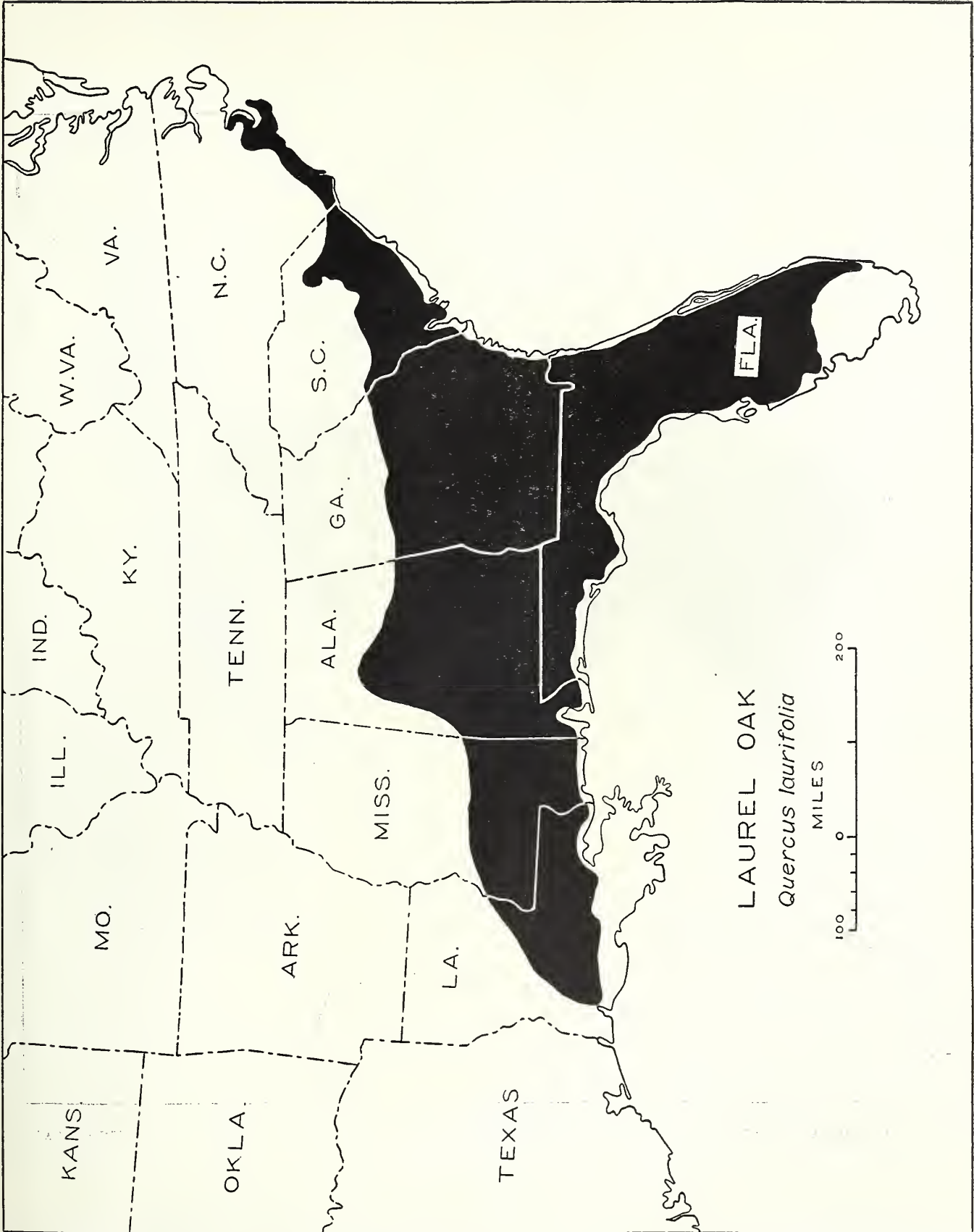
QUERCUS NIGRA LINNAEUS



WILLOW OAK
BARTRAM OAK

MAP 104

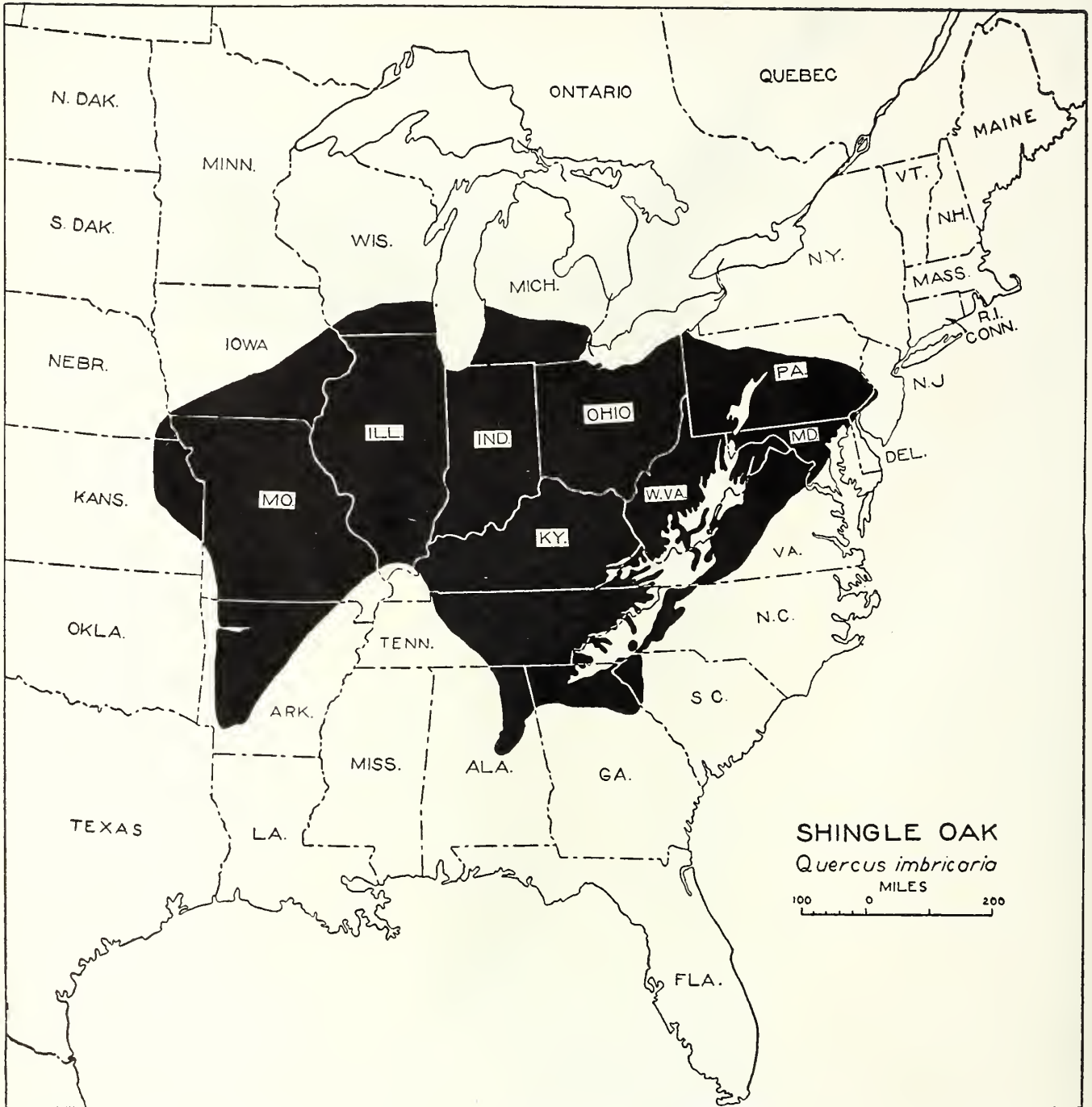
QUERCUS PHELLOS LINNAEUS
X QUERCUS HETEROPHYLLA MICHAUX FILIUS



LAUREL OAK

MAP 105

QUERCUS LAURIFOLIA MICHAUX



QUERCUS IMBRICARIA MICHAUX

MAP 106

SHINGLE OAK





MAP 108

QUERCUS VIRGINIANA MILLER

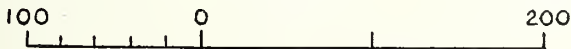
LIVE OAK



CALIFORNIA BLUE OAK

Quercus douglasii

MILES

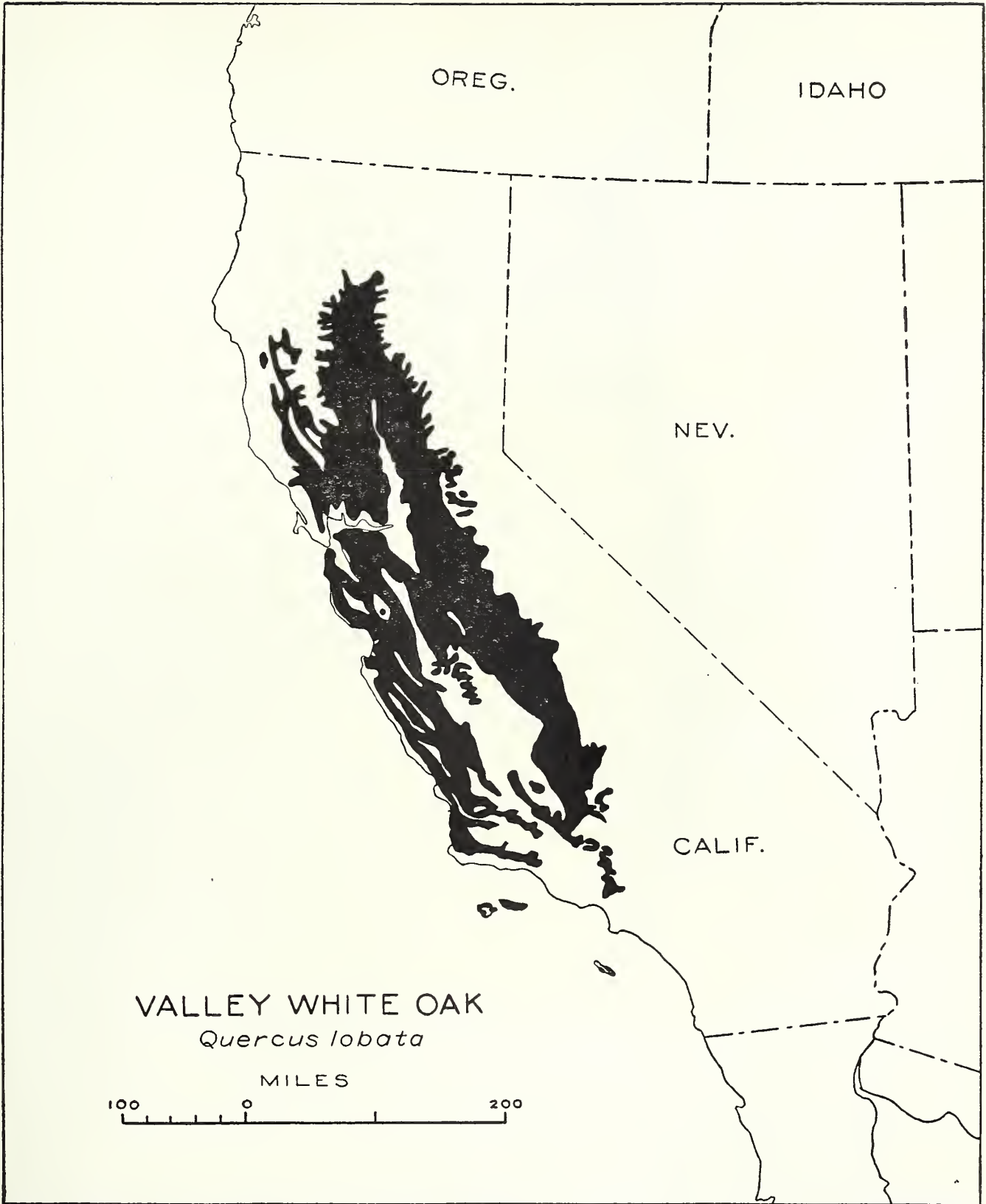




WHITE OAK

MAP 110

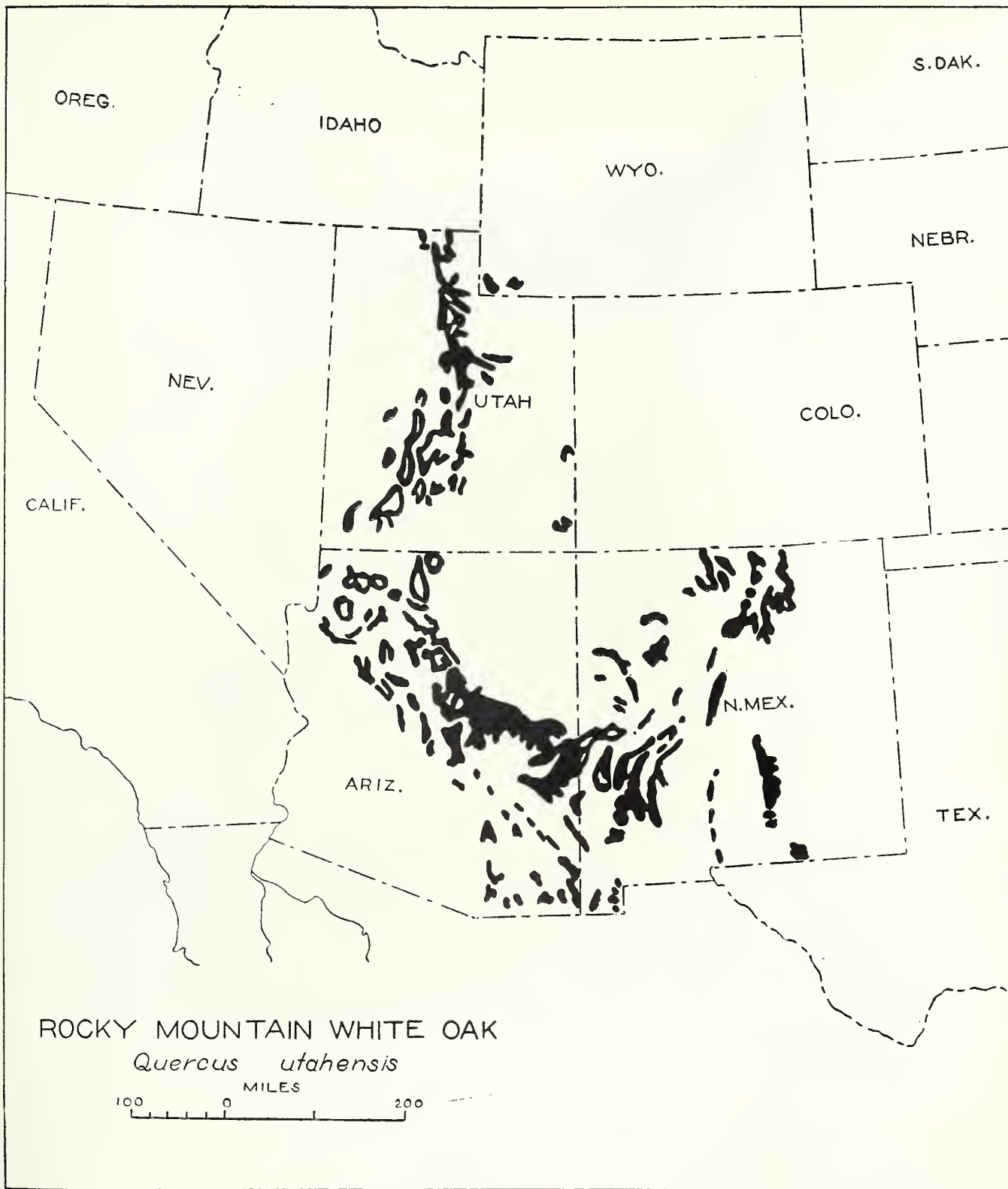
QUERCUS ALBA LINNAEUS





OREGON WHITE OAK
Quercus garryana

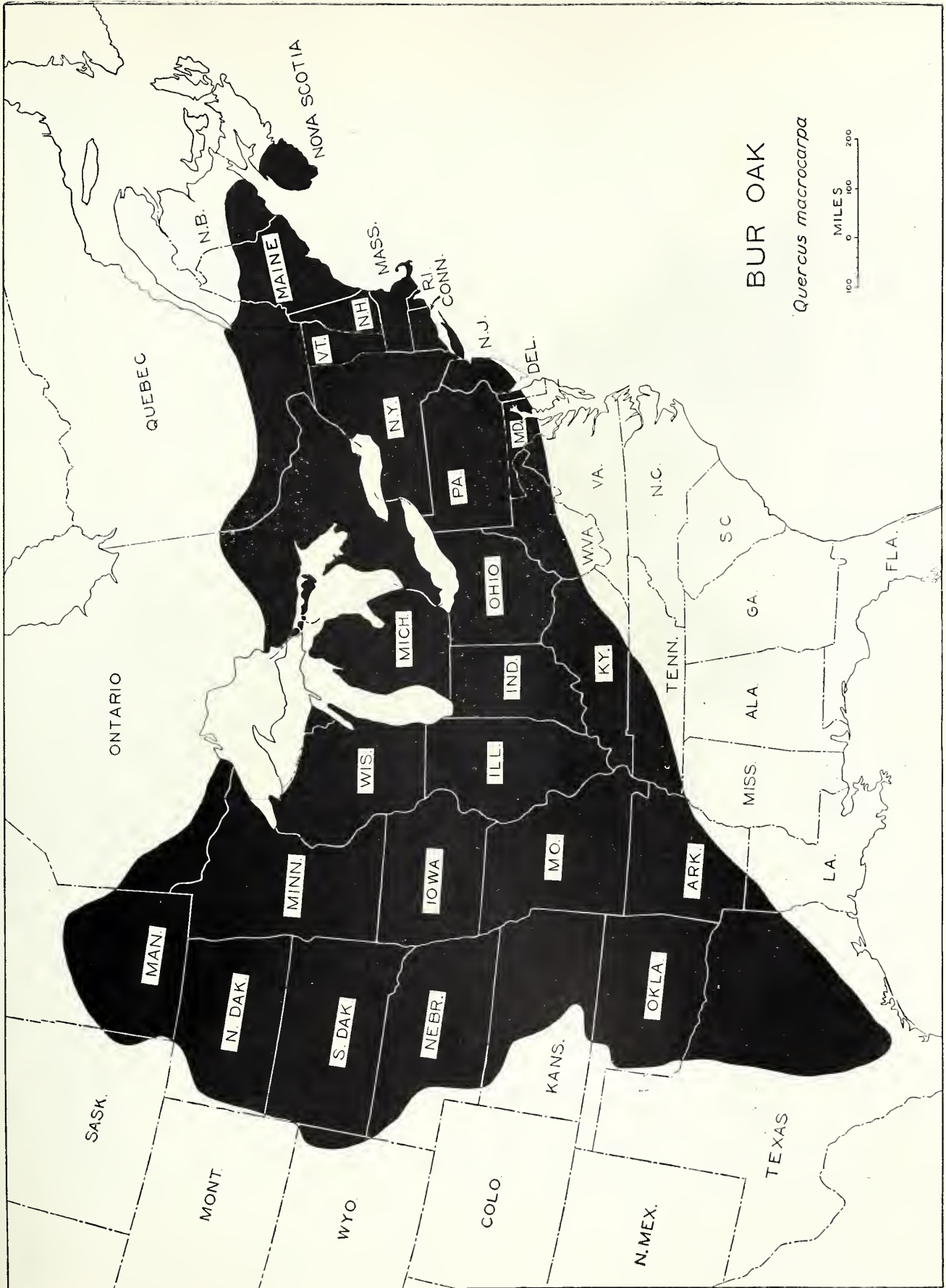
100 0 200
MILES



ROCKY MOUNTAIN WHITE OAK

Quercus utahensis

MILES
100 0 200



BUR OAK

MAP 115

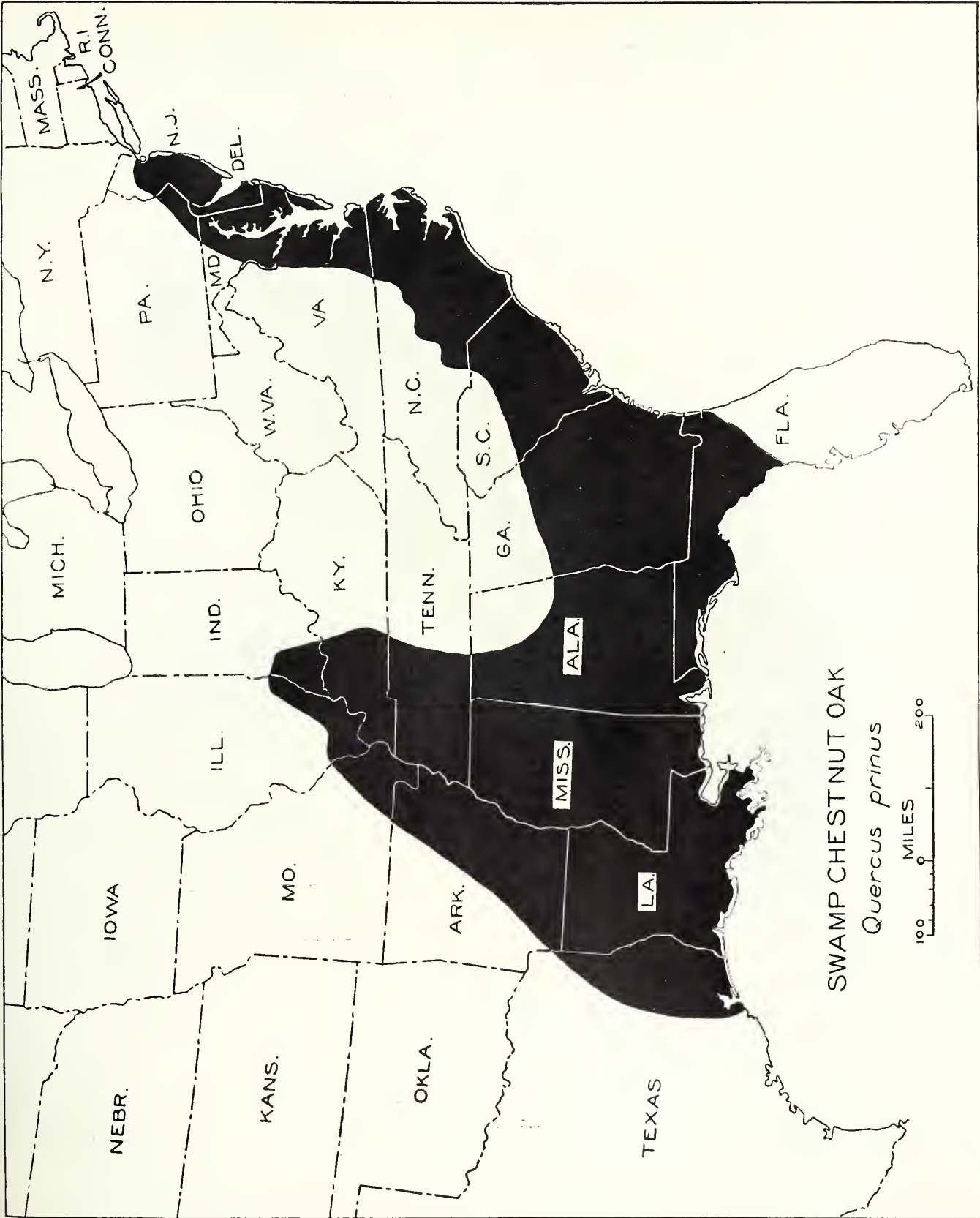
QUERCUS MACROCARPA MICHAUX



SWAMP WHITE OAK

MAP 116

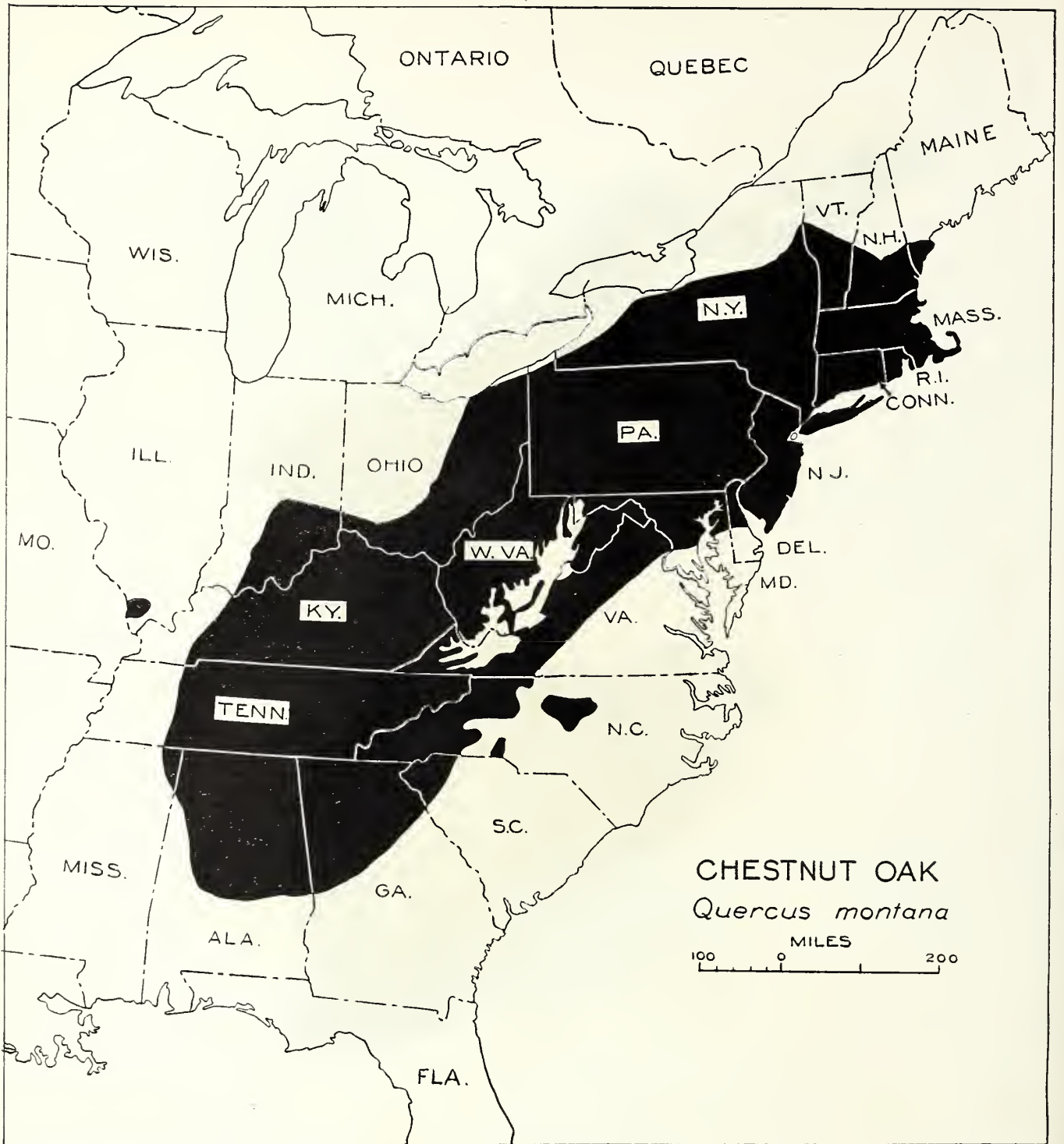
QUERCUS BICOLOR WILLENOW



SWAMP CHESTNUT OAK

MAP 117

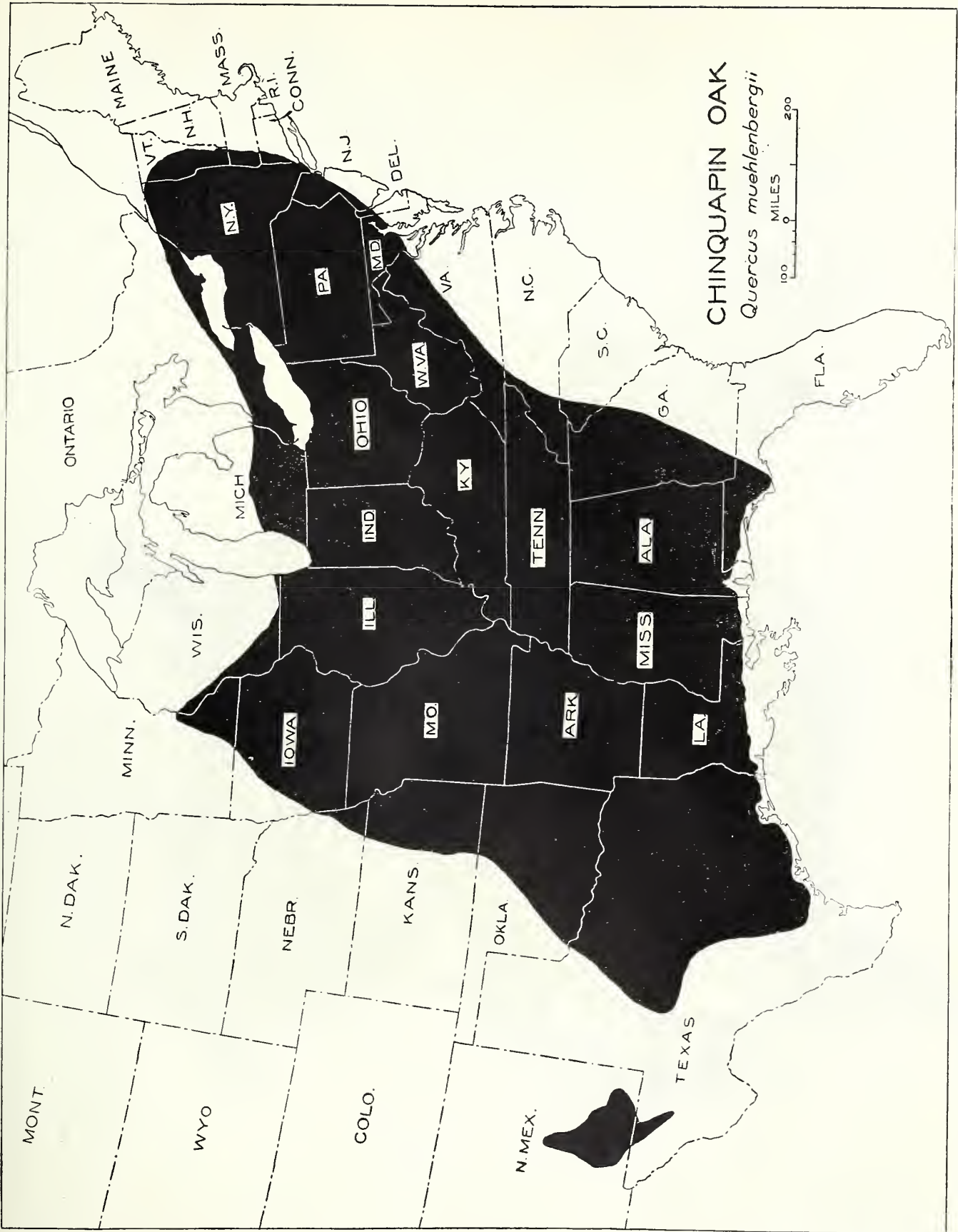
QUERCUS PRINUS LINNAEUS



QUERCUS MONTANA WILLDENOW

MAP 118

CHESTNUT OAK



CHINQUAPIN OAK

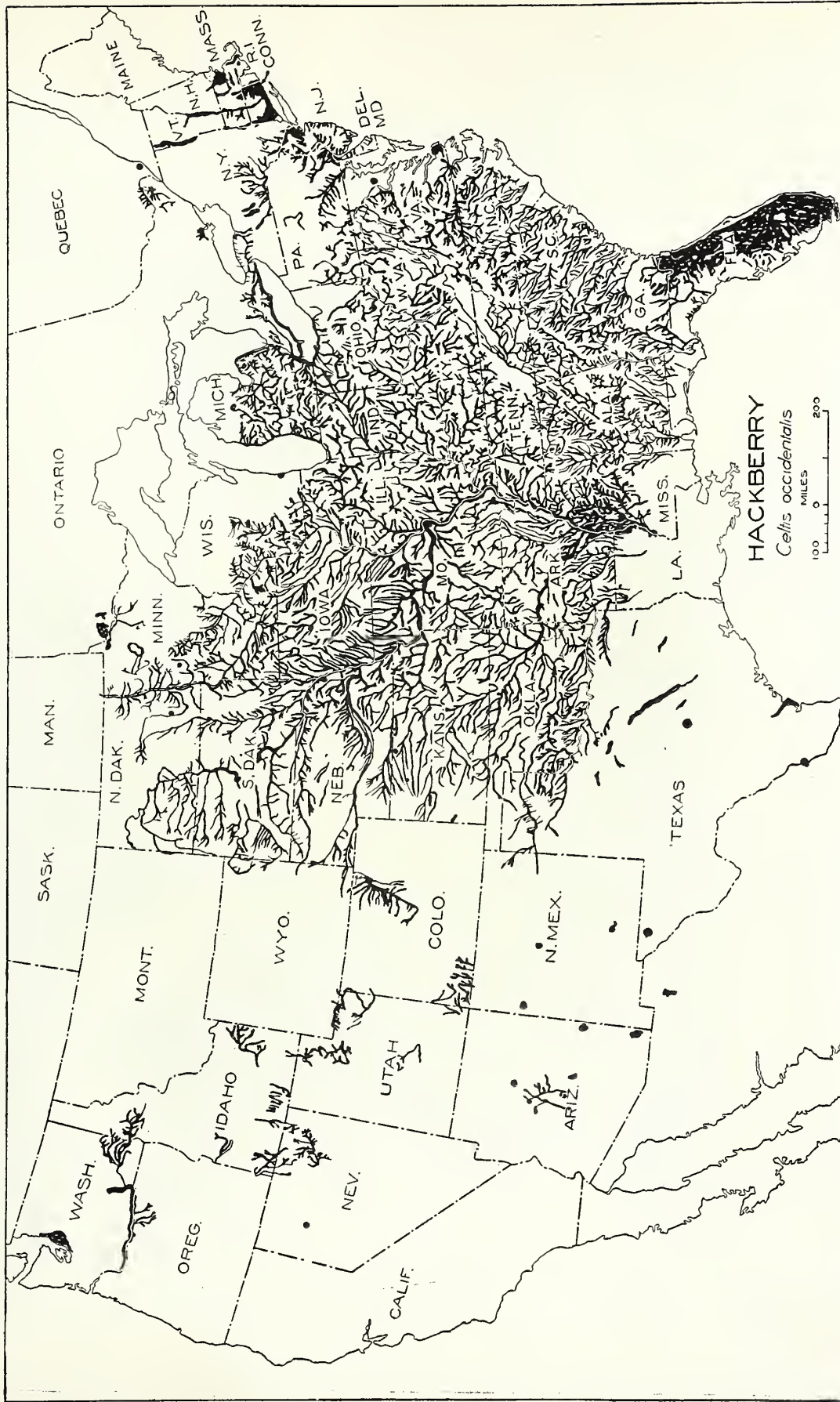
MAP 119

QUERCUS MUEHLENBERGII ENGELMANN



AMERICAN ELM
Ulmus americana

MILES
100 0 200



HACKBERRY

MAP 121

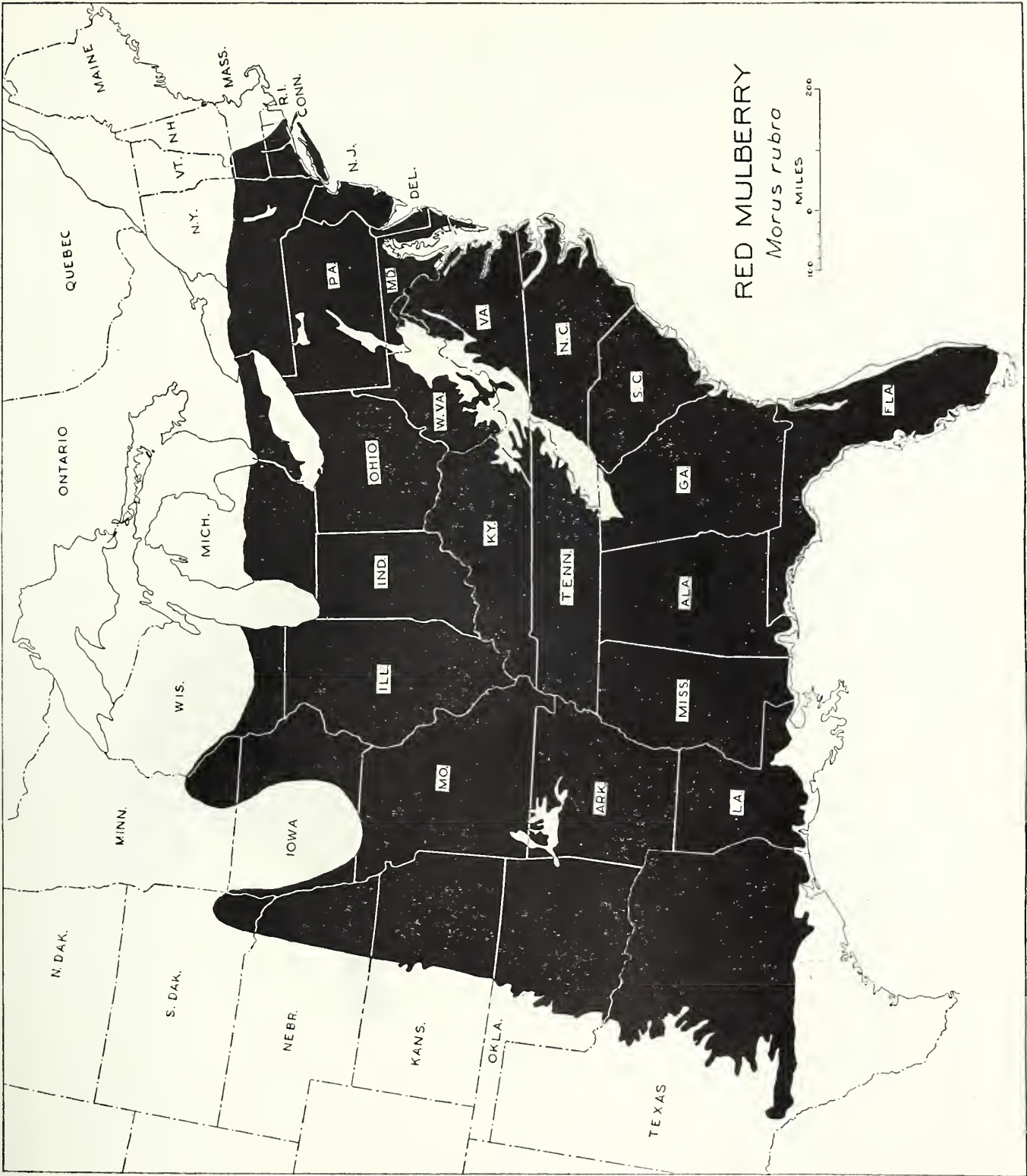
CELTIS OCCIDENTALIS LINNAEUS



SUGARBERRY

MAP 122

CELTIS LAEVIGATA WILLDENOW



RED MULBERRY

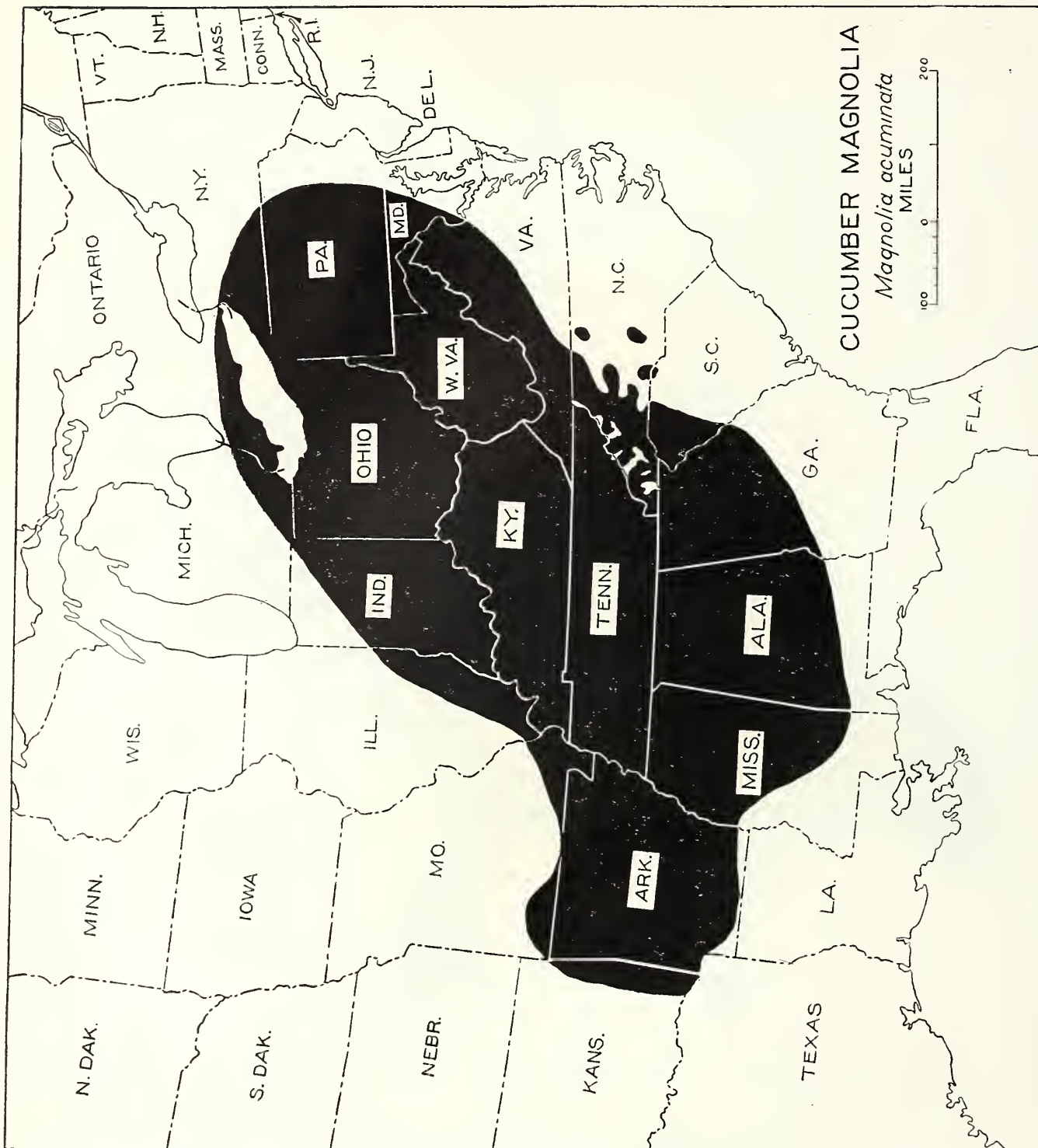
MAP 123

MORUS RUBRA LINNAEUS



MAP 124

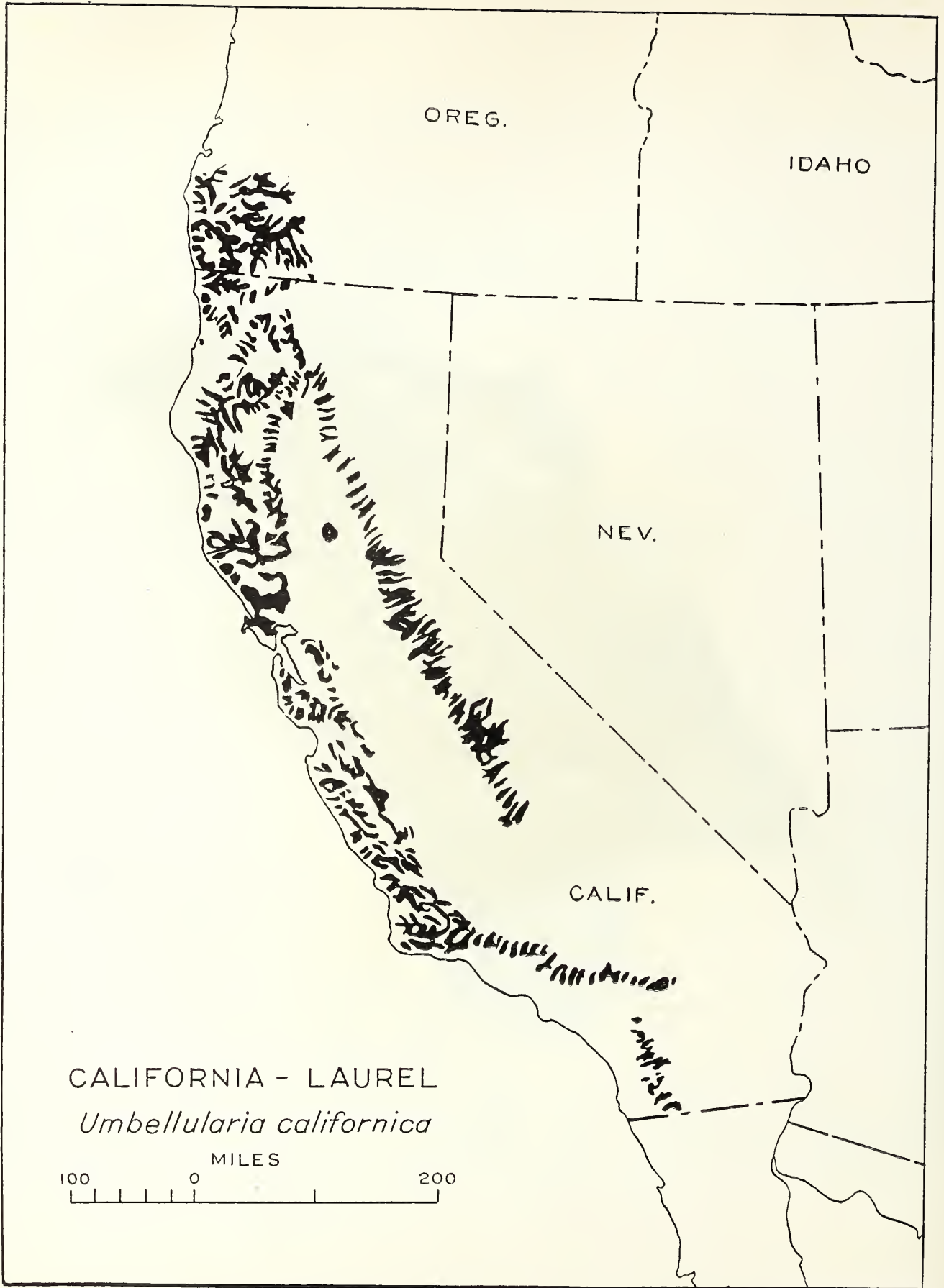




MAP 126

MAGNOLIA ACUMINATA LINNAEUS

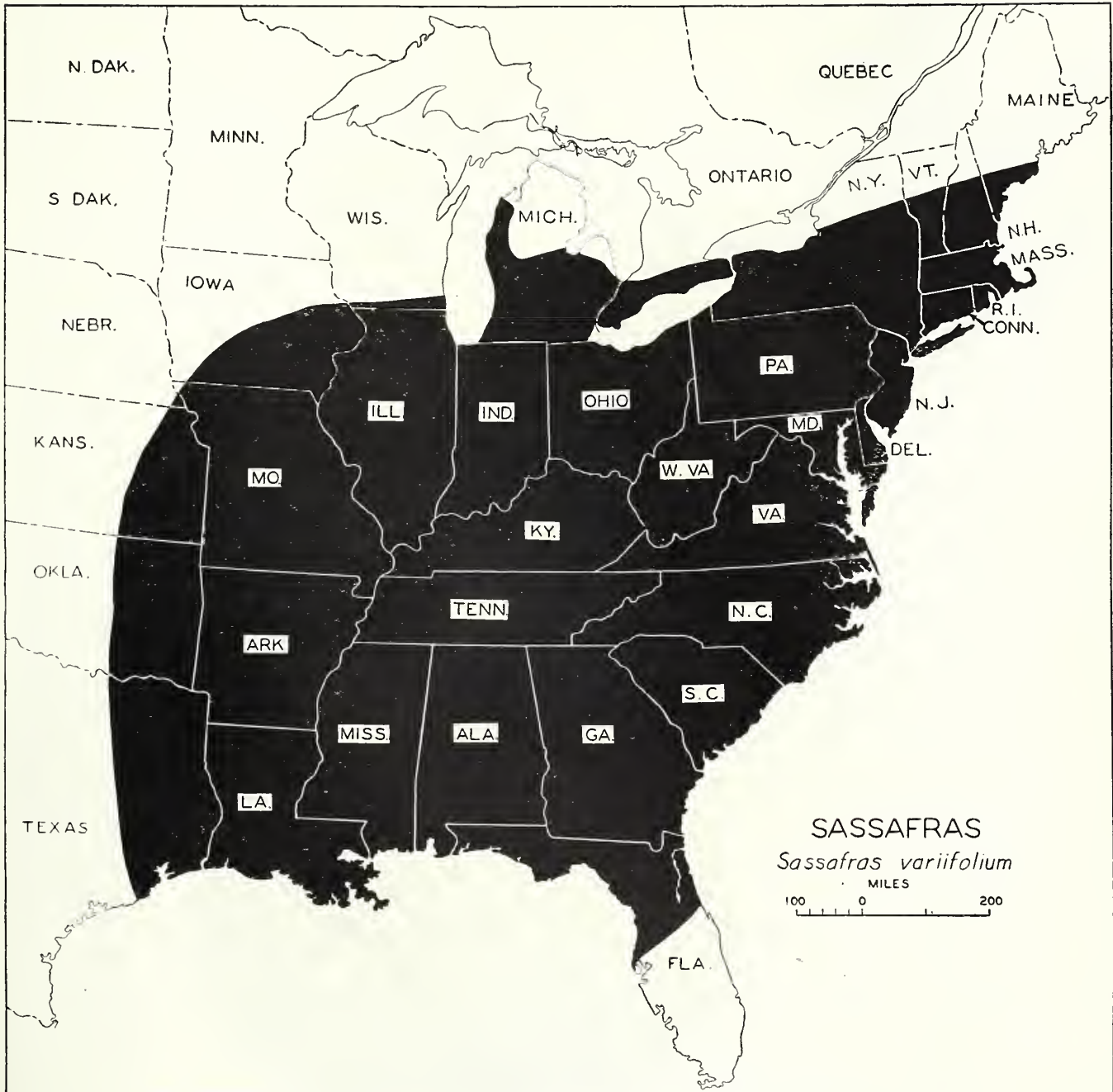
CUCUMBER MAGNOLIA



CALIFORNIA - LAUREL
Umbellularia californica

100 0 200
MILES

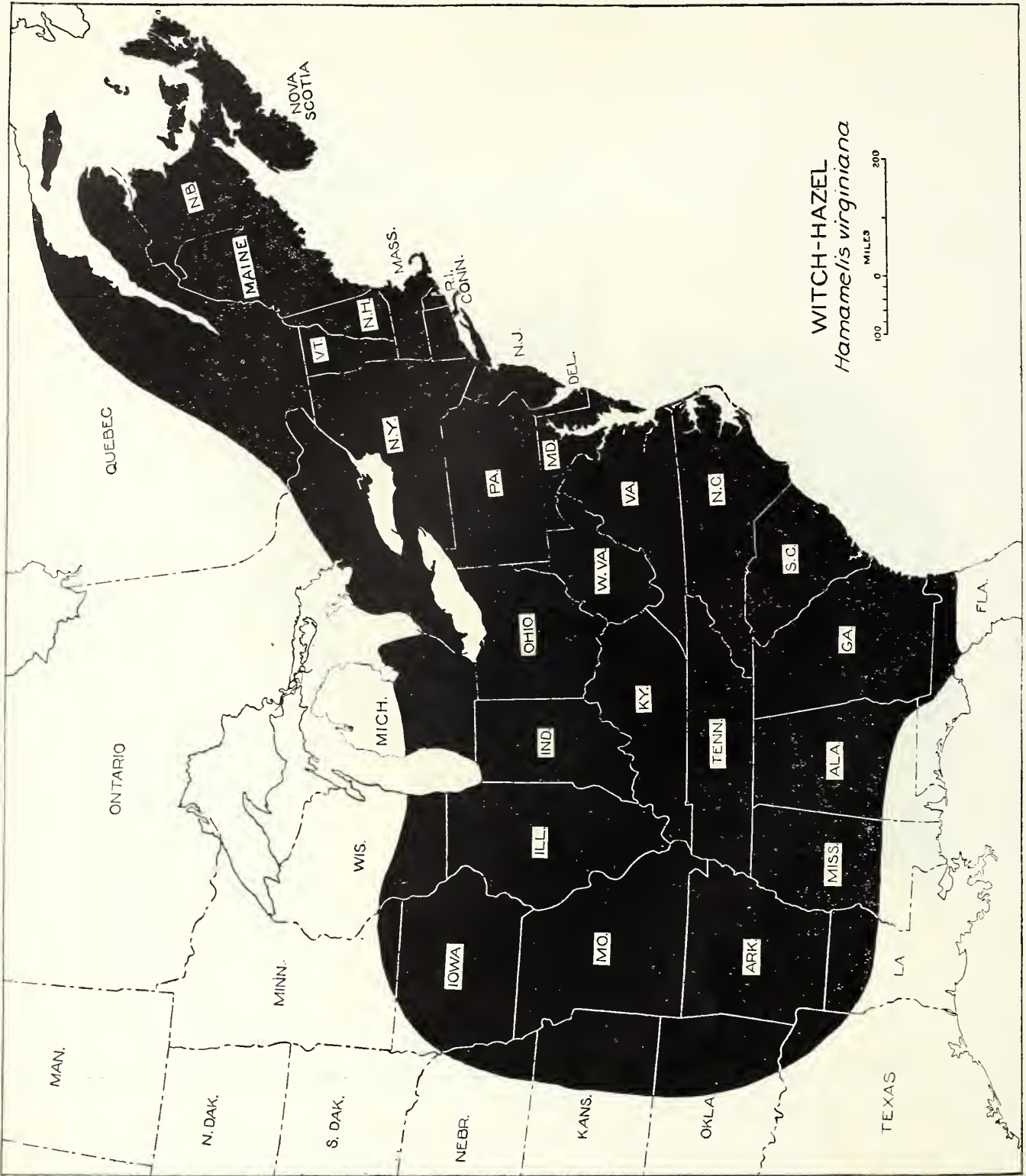
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SASSAFRAS VARIIFOLIUM (SALISBURY) KUNTZE

MAP 129

SASSAFRAS

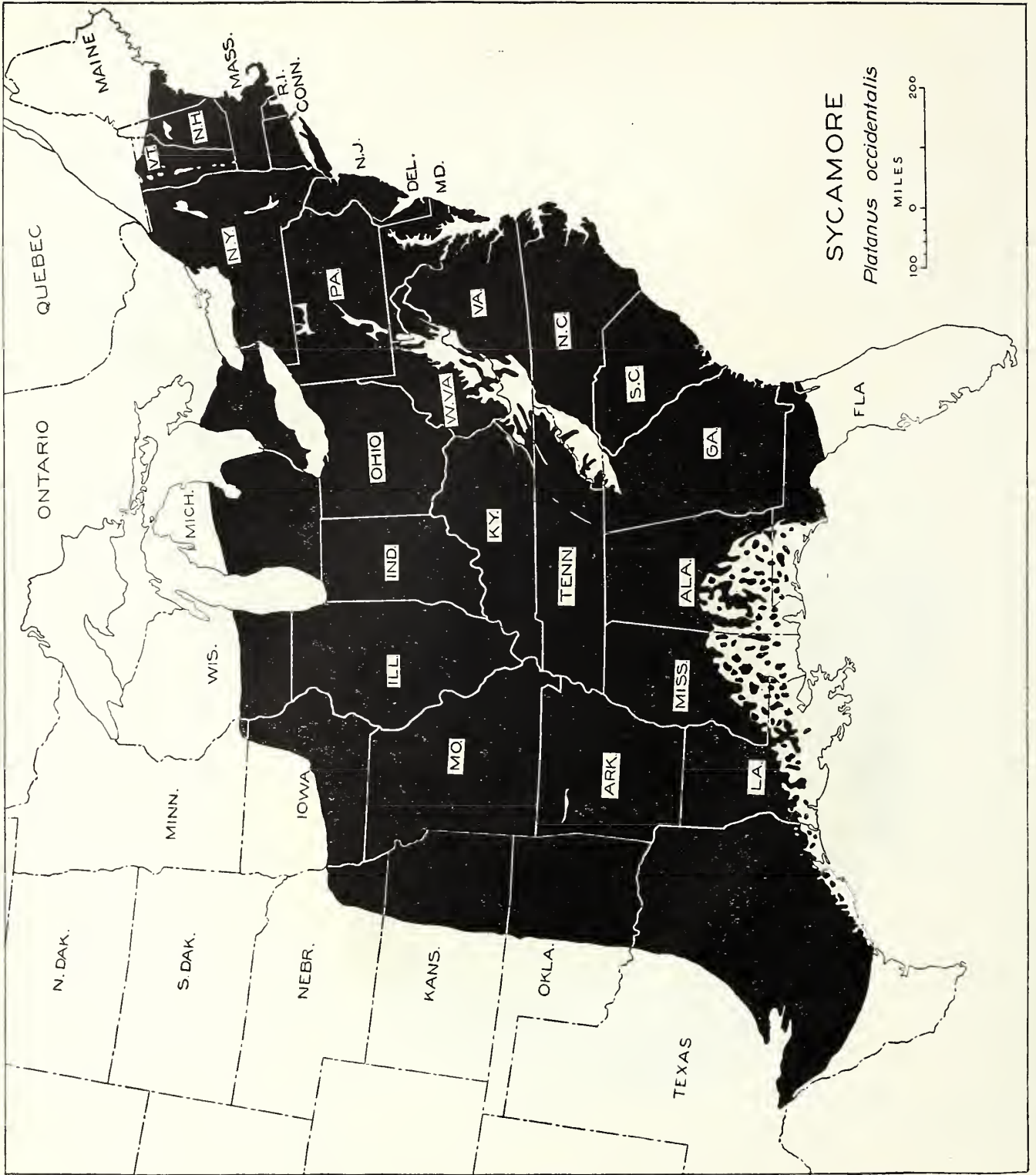




LIQUIDAMBAR STYRACIFLUA LINNAEUS

MAP 131

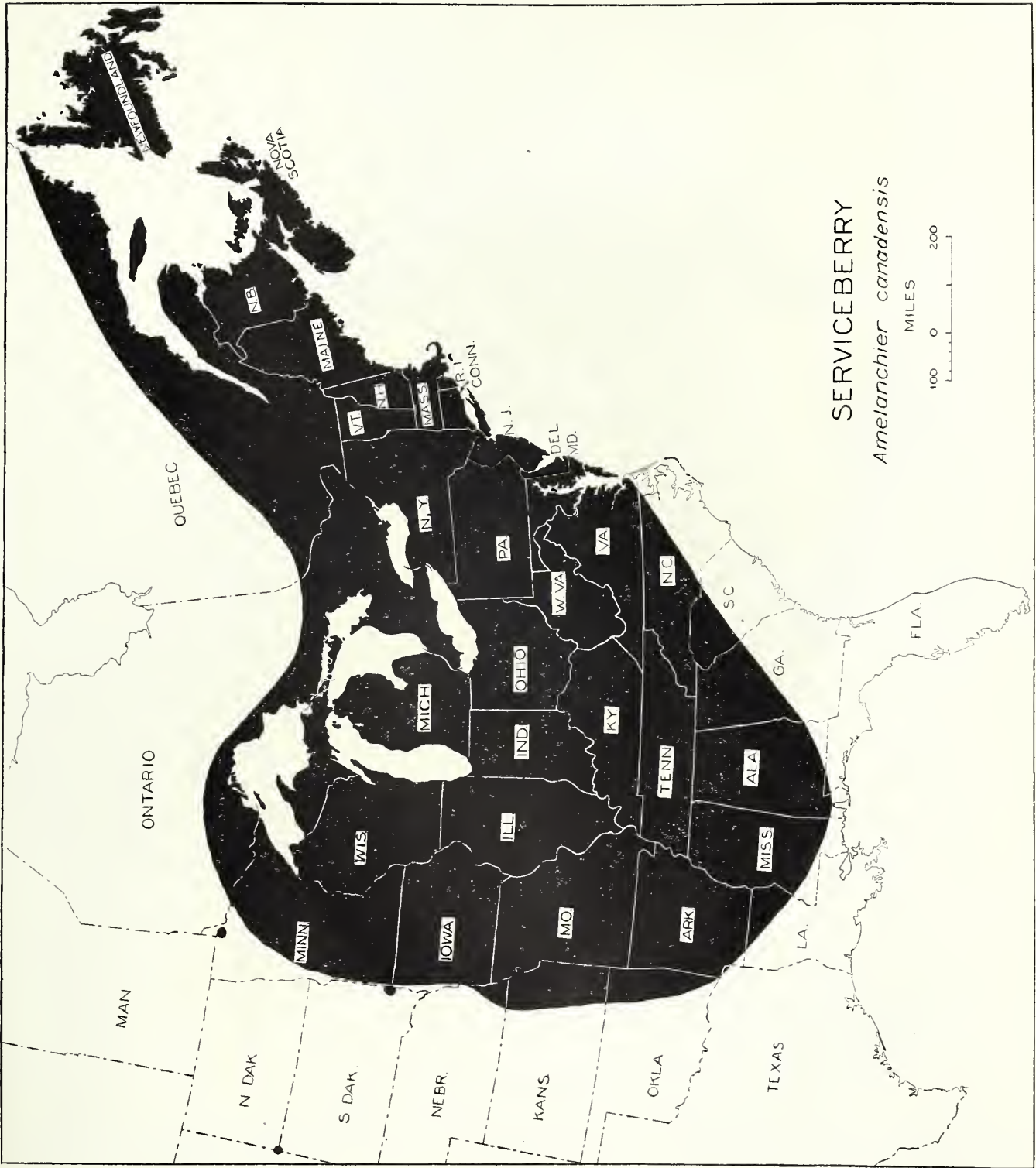
RED GUM



SYCAMORE

MAP 132

PLATANUS OCCIDENTALIS LINNAEUS

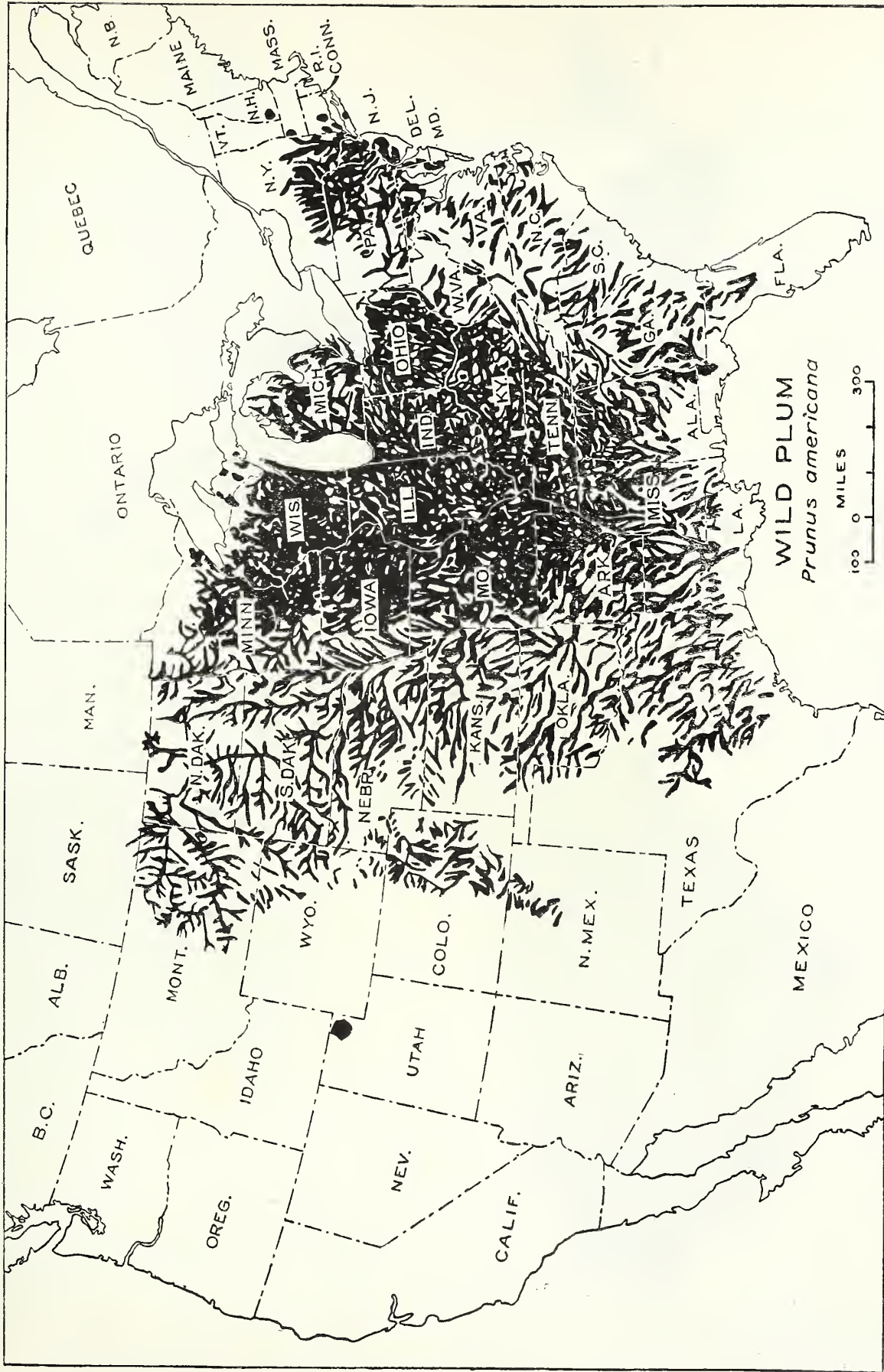


SERVICEBERRY

MAP 133

AMELANCHIER CANADENSIS (LINNAEUS) MEDICUS





WILD PLUM

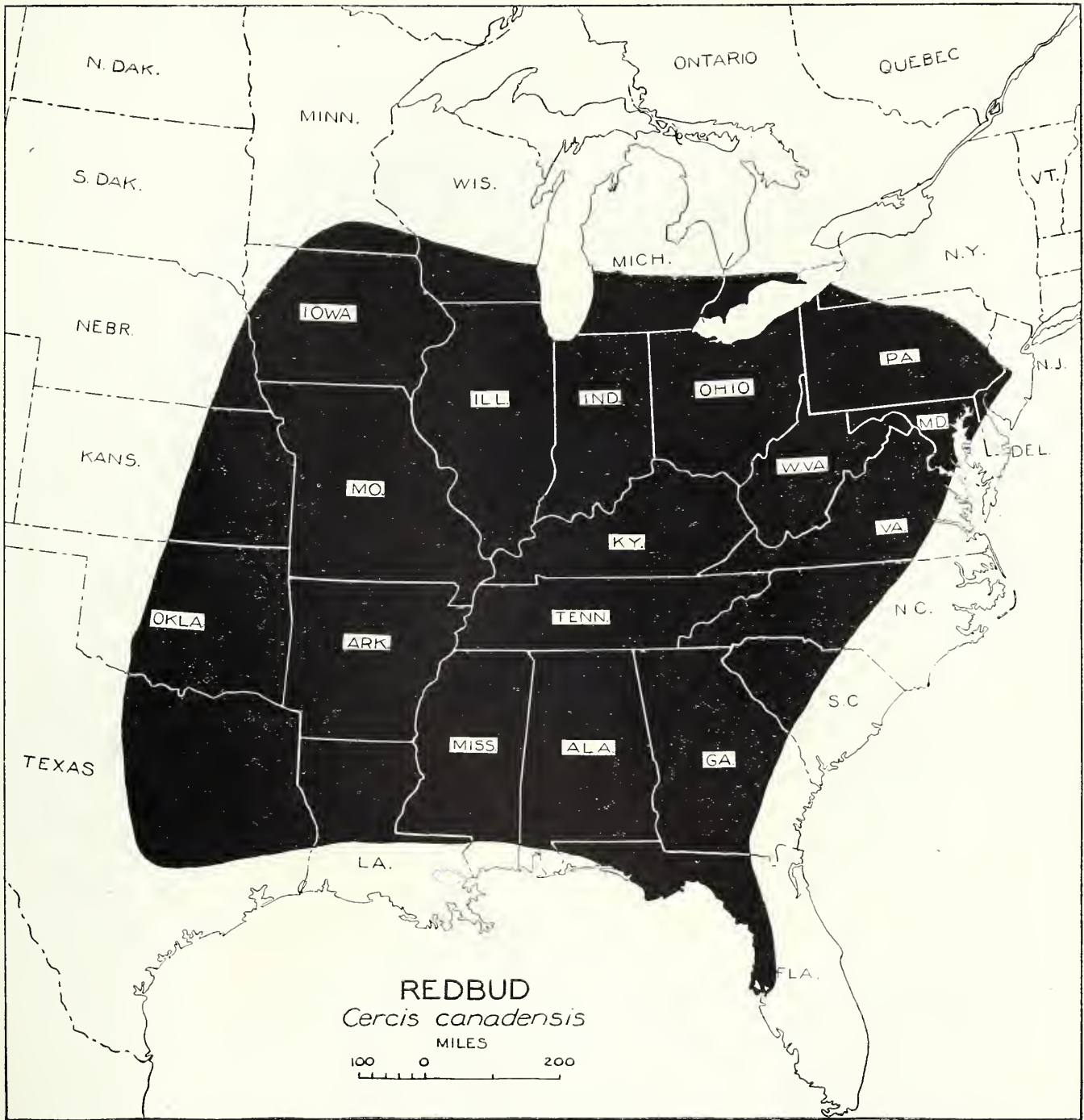
MAP 135

PRUNUS AMERICANA MARSHALL



BLACK CHERRY
Prunus serotina

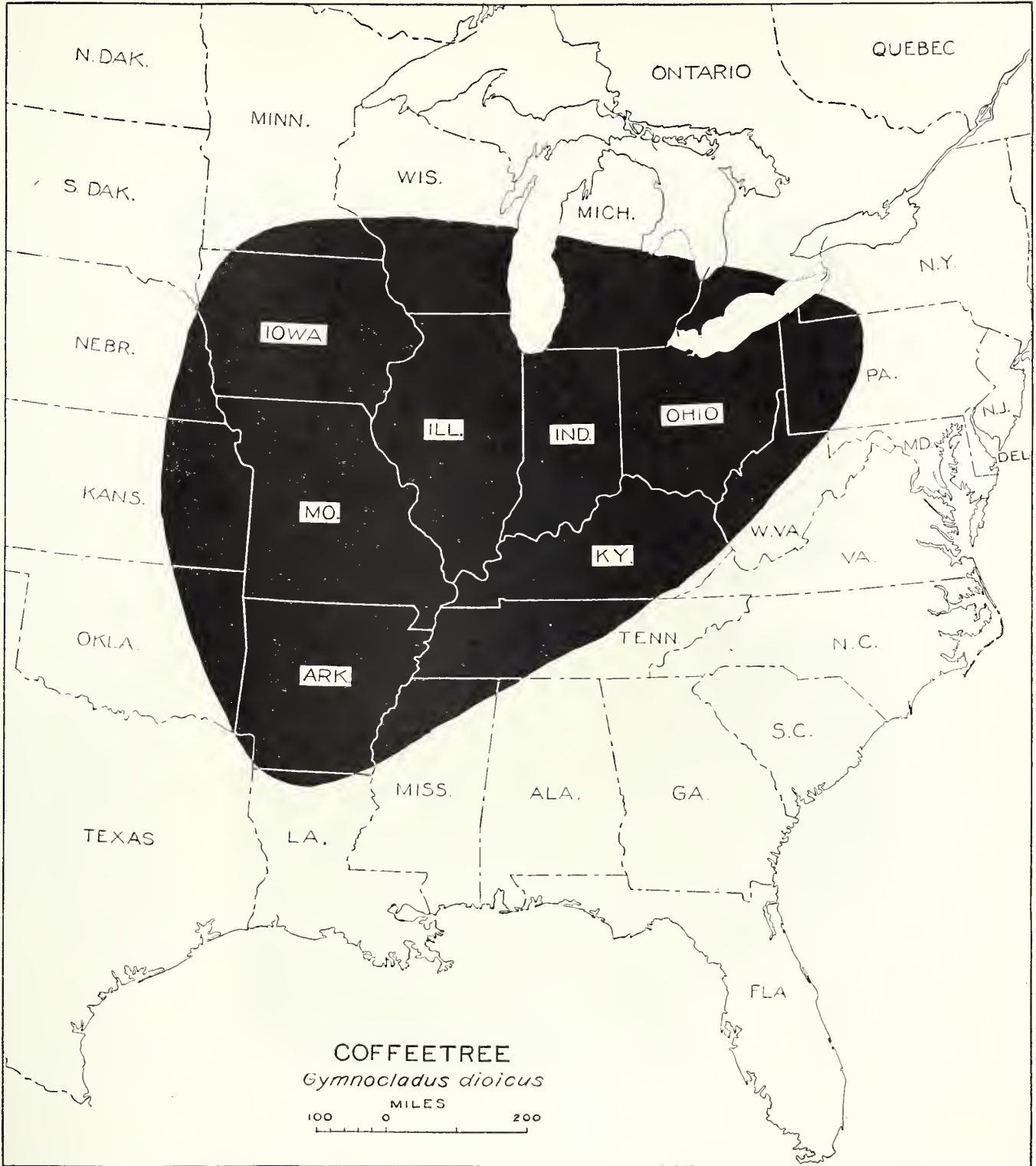
0 100 200
MILES

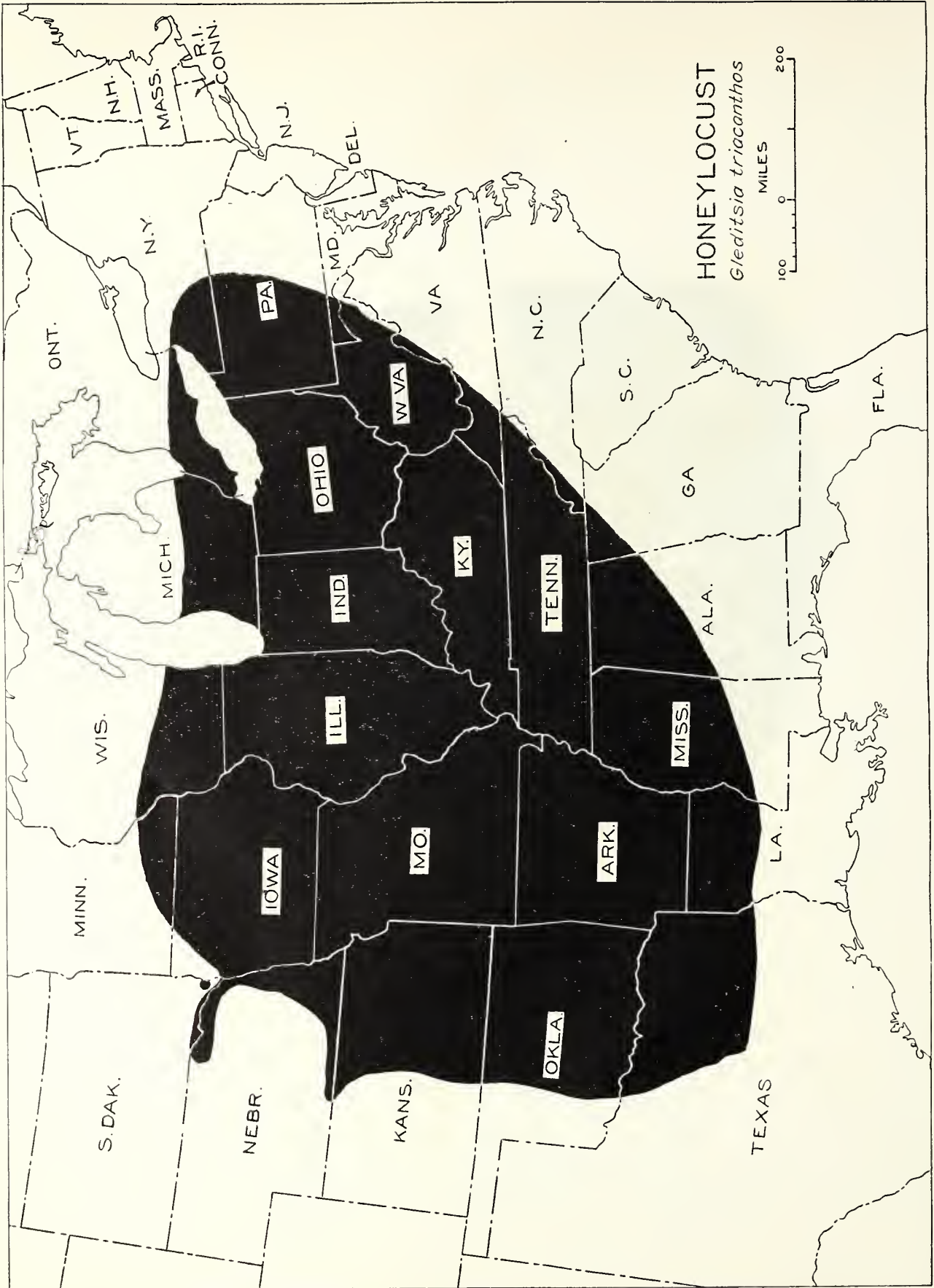


REDBUD
Cercis canadensis

MILES
100 0 200



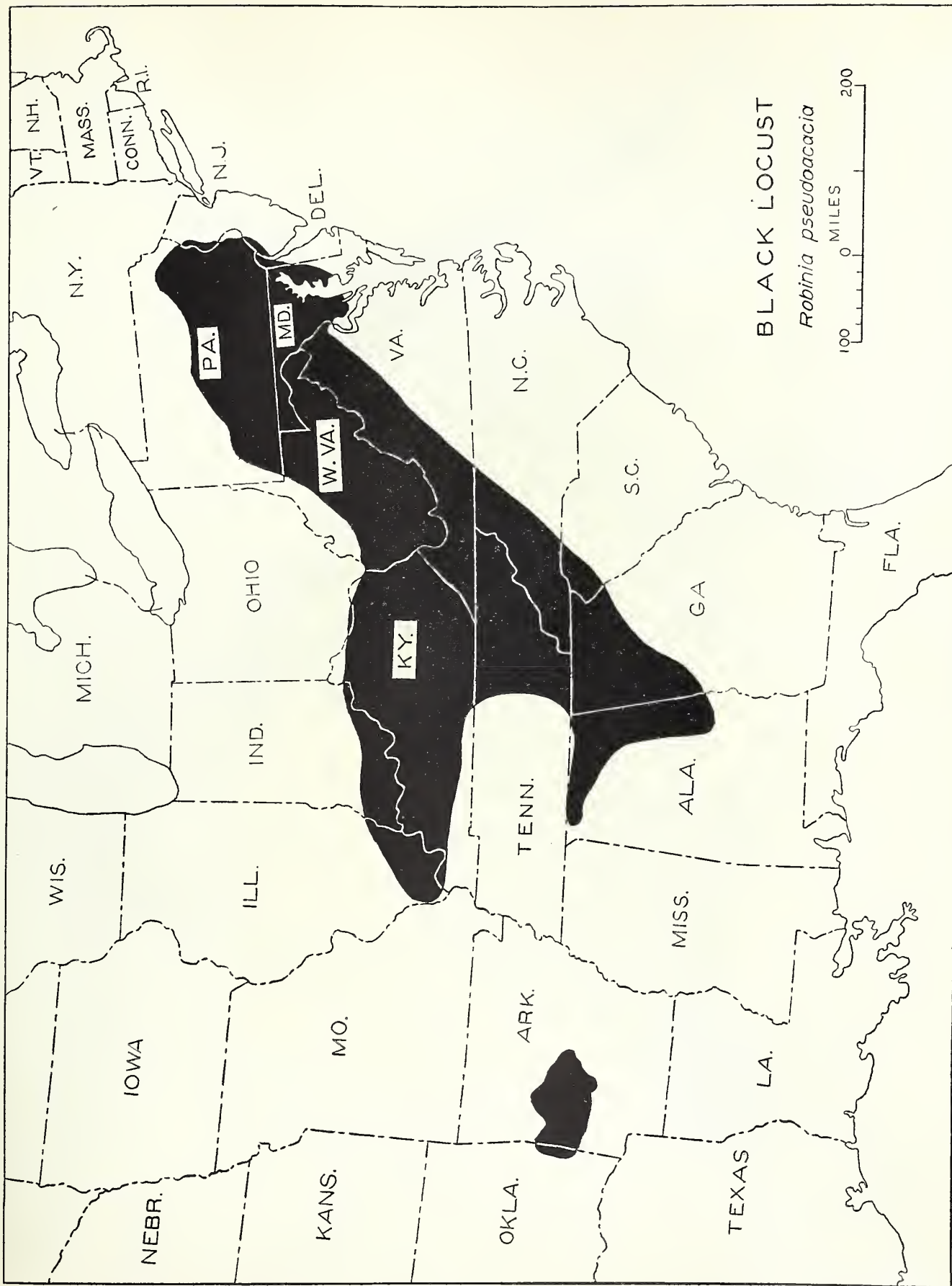




HONEYLOCUST

MAP 142

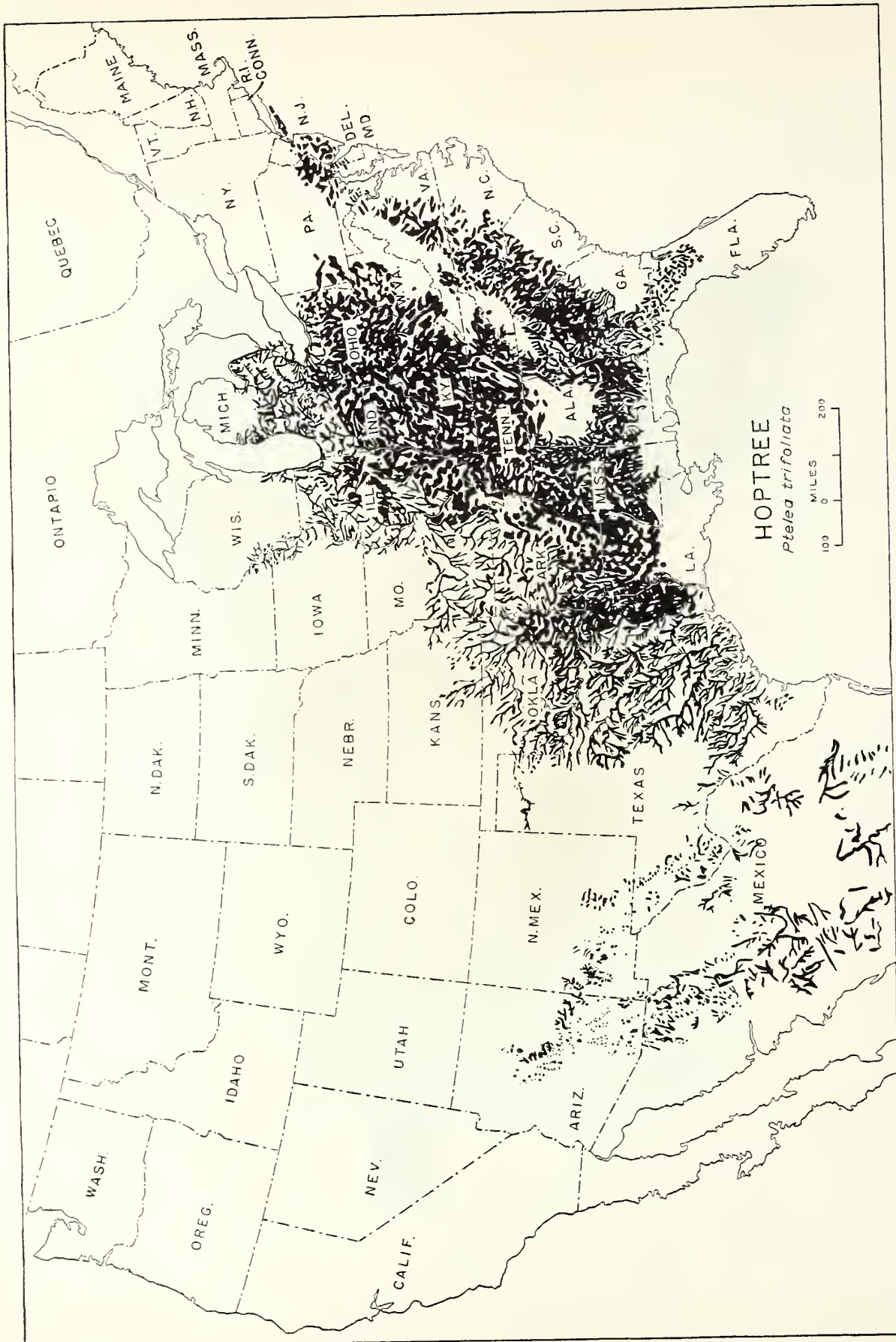
GLEDDITSIA TRIACANTHOS LINNAEUS



MAP 143

ROBINIA PSEUDOACACIA LINNAEUS

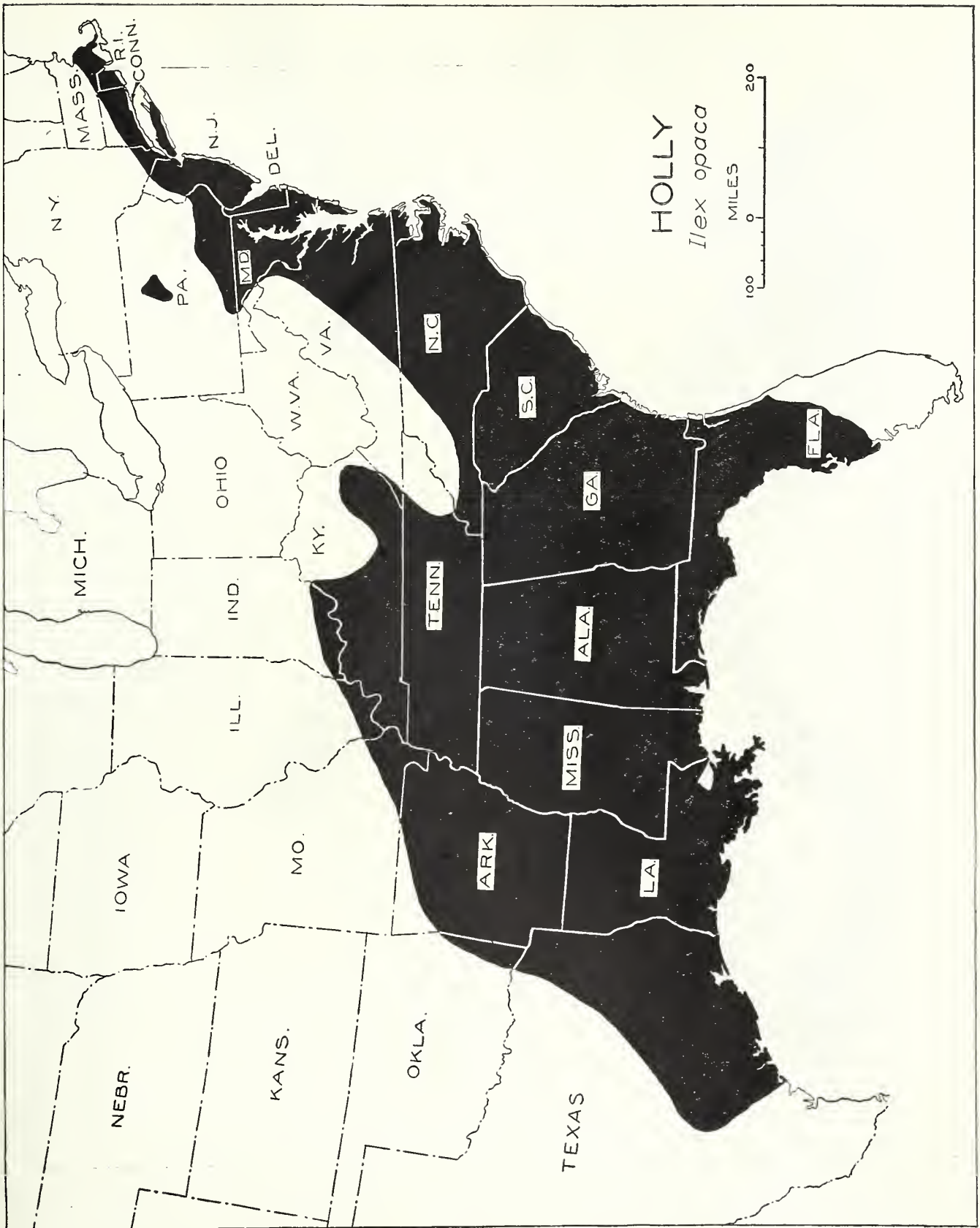
BLACK LOCUST



HOPTREE

MAP 144

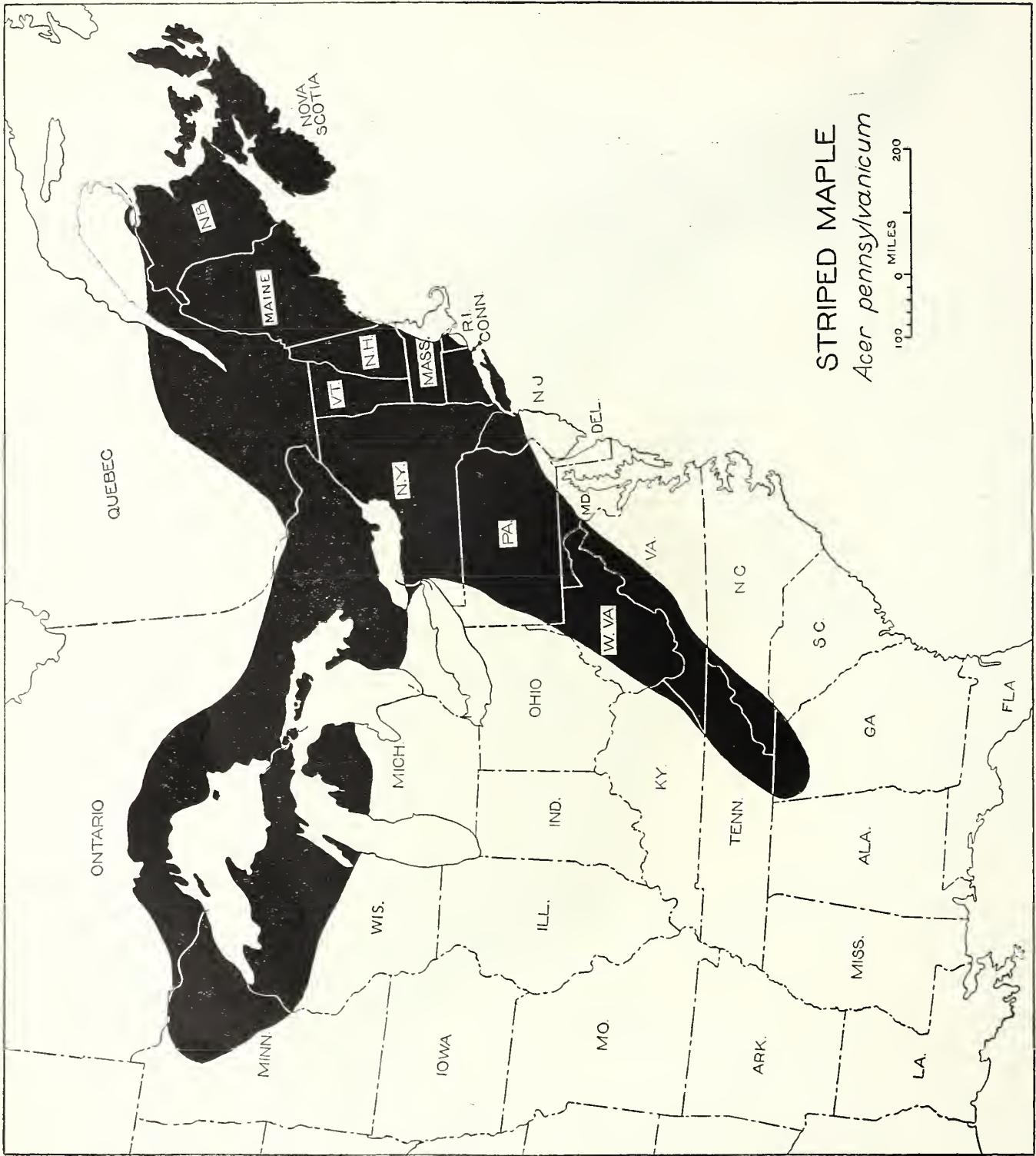
PTELEA TRIFOLIATA LINNAEUS



MAP 145

ILEX OPACA AITON

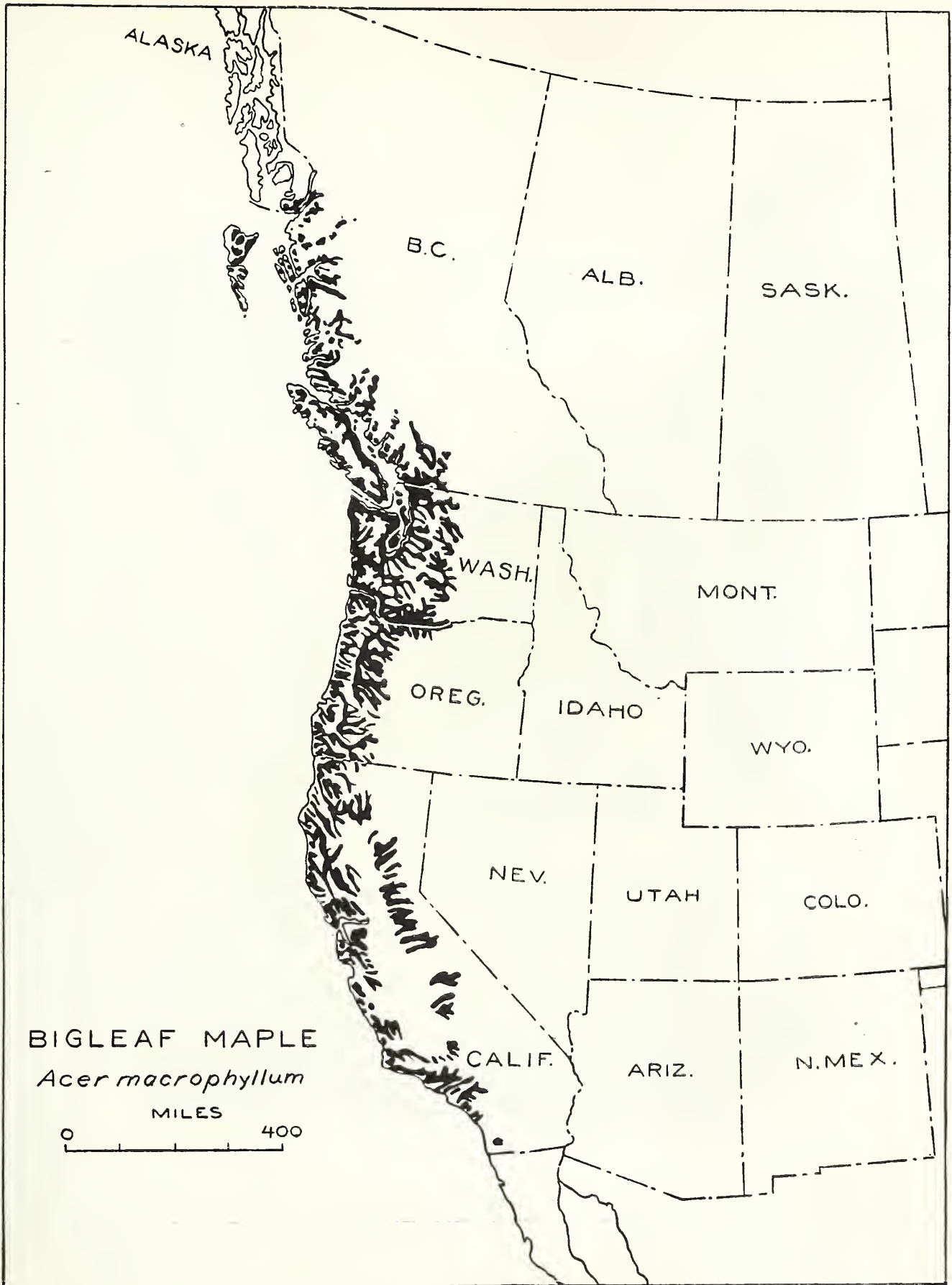
HOLLY



STRIPED MAPLE

MAP 146

ACER PENNSYLVANICUM LINNAEUS

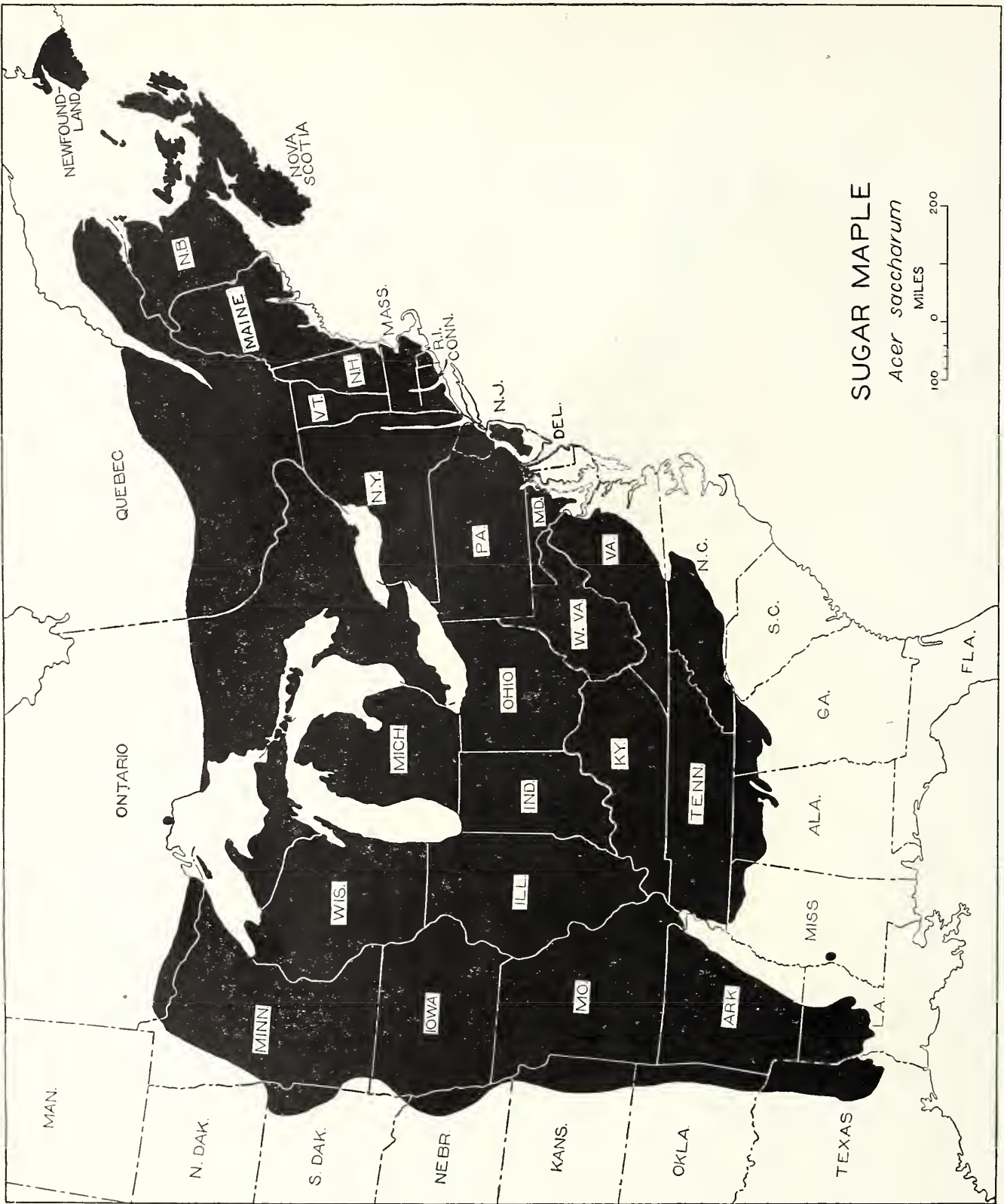


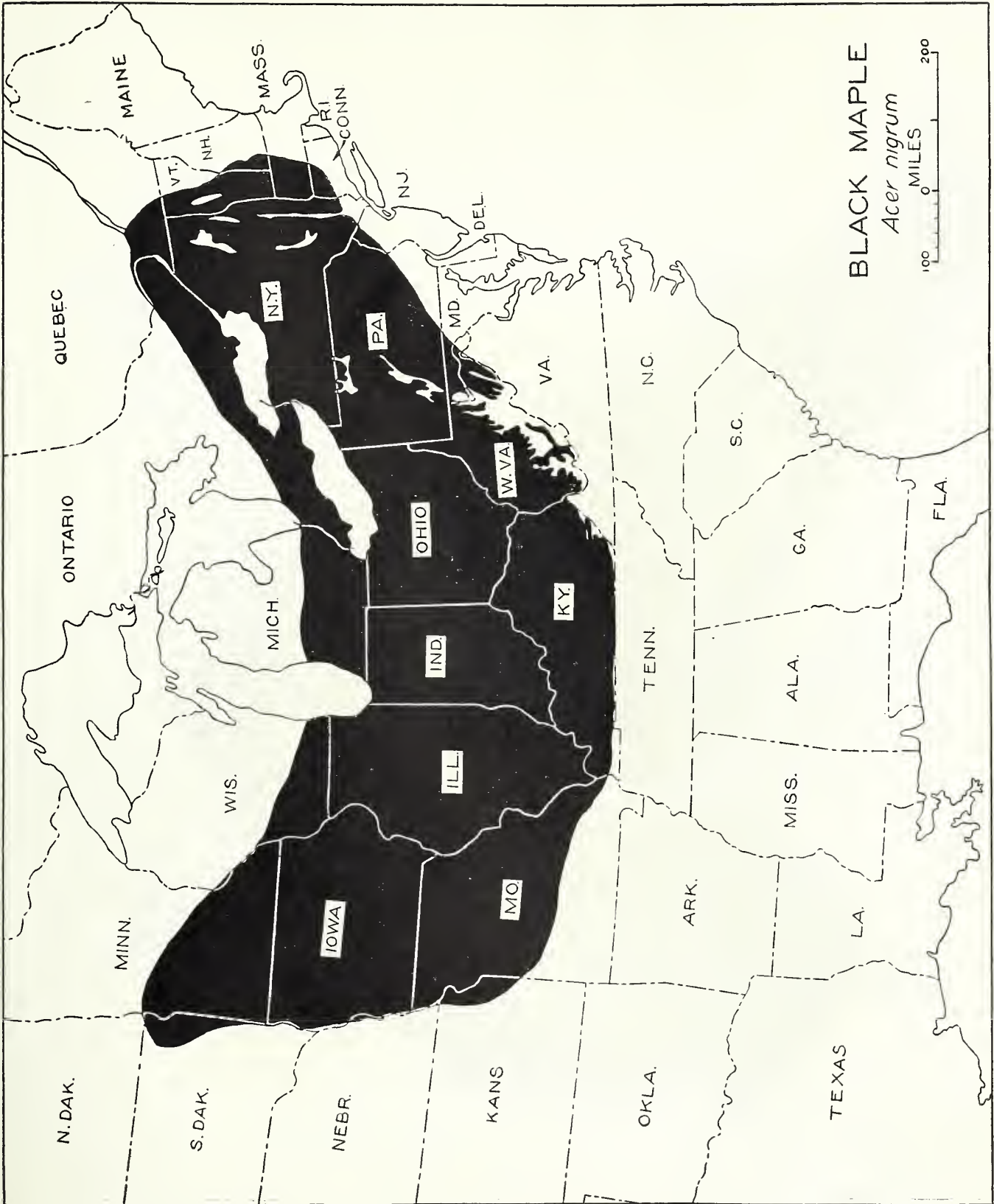
BIGLEAF MAPLE

Acer macrophyllum

MILES

0 400

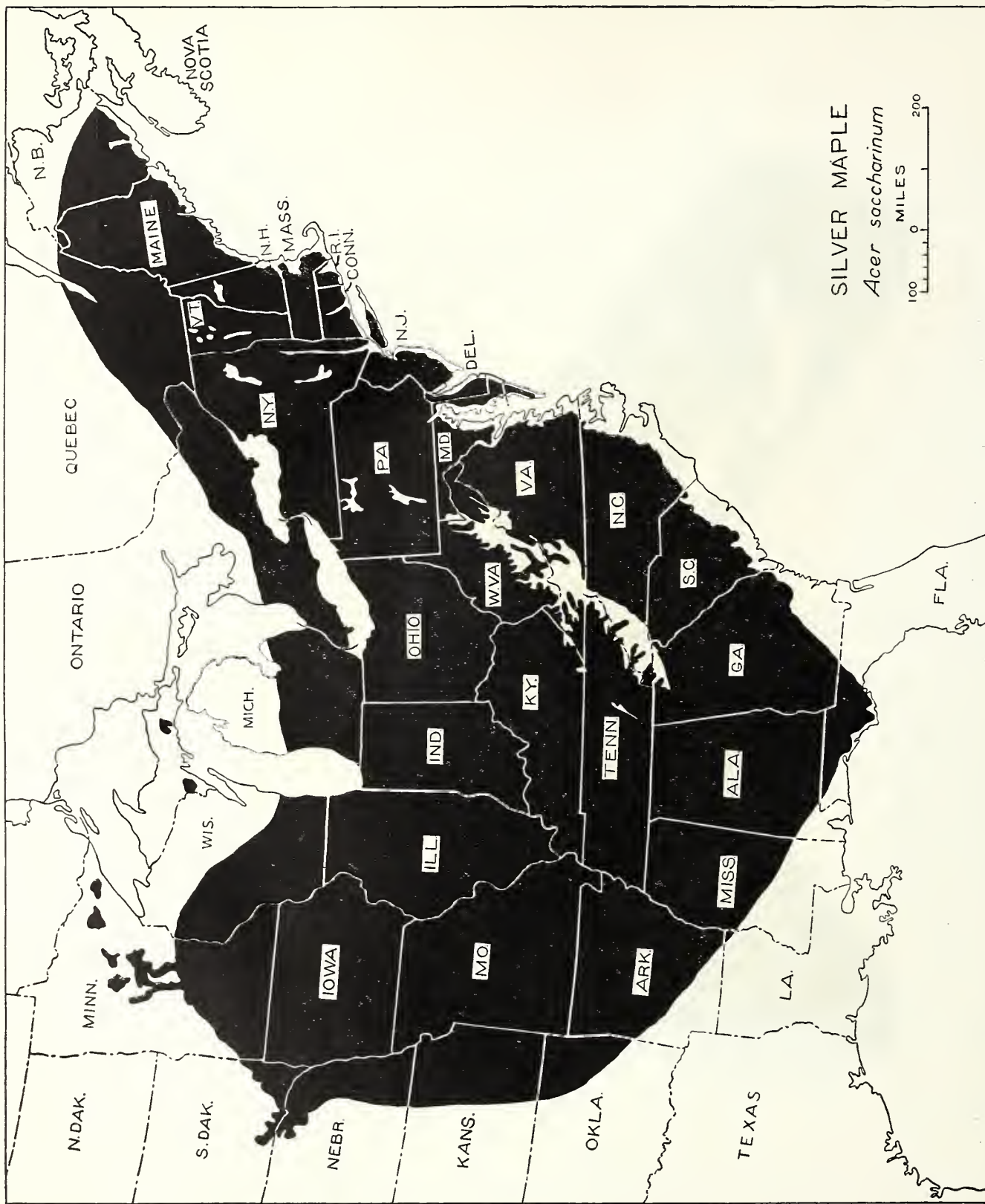




BLACK MAPLE

MAP 149

ACER NIGRUM MICHAUX FILIUS



SILVER MAPLE

MAP 150

ACER SACCHARINUM LINNAEUS



RED MAPLE

MAP 151

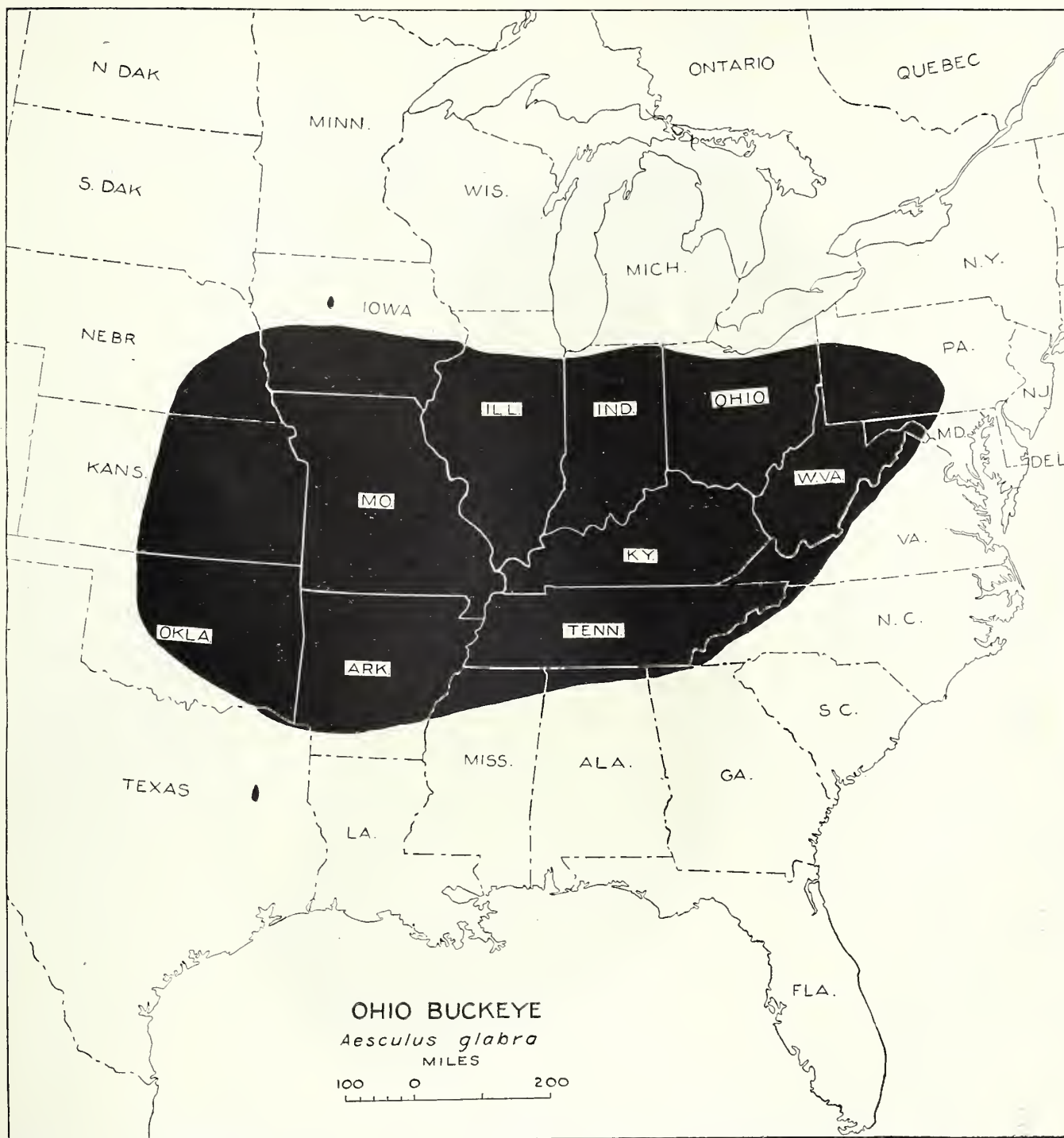
ACER RUBRUM LINNAEUS



ACER NEGUNDO LINNAEUS

MAP 152

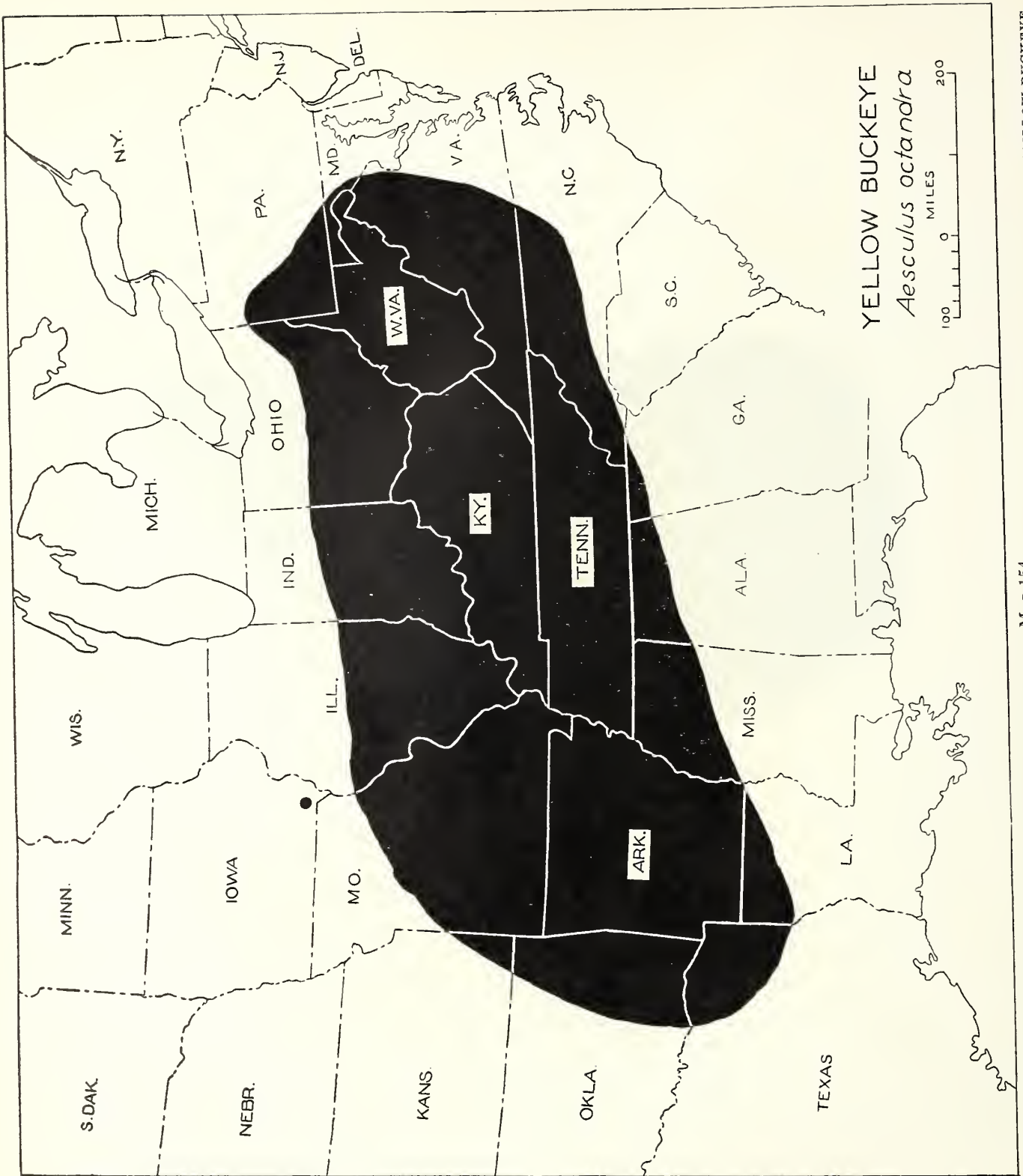
BOXELDER



AESCULUS GLABRA WILLDENOW

MAP 153

OHIO BUCKEYE



YELLOW BUCKEYE

MAP 154

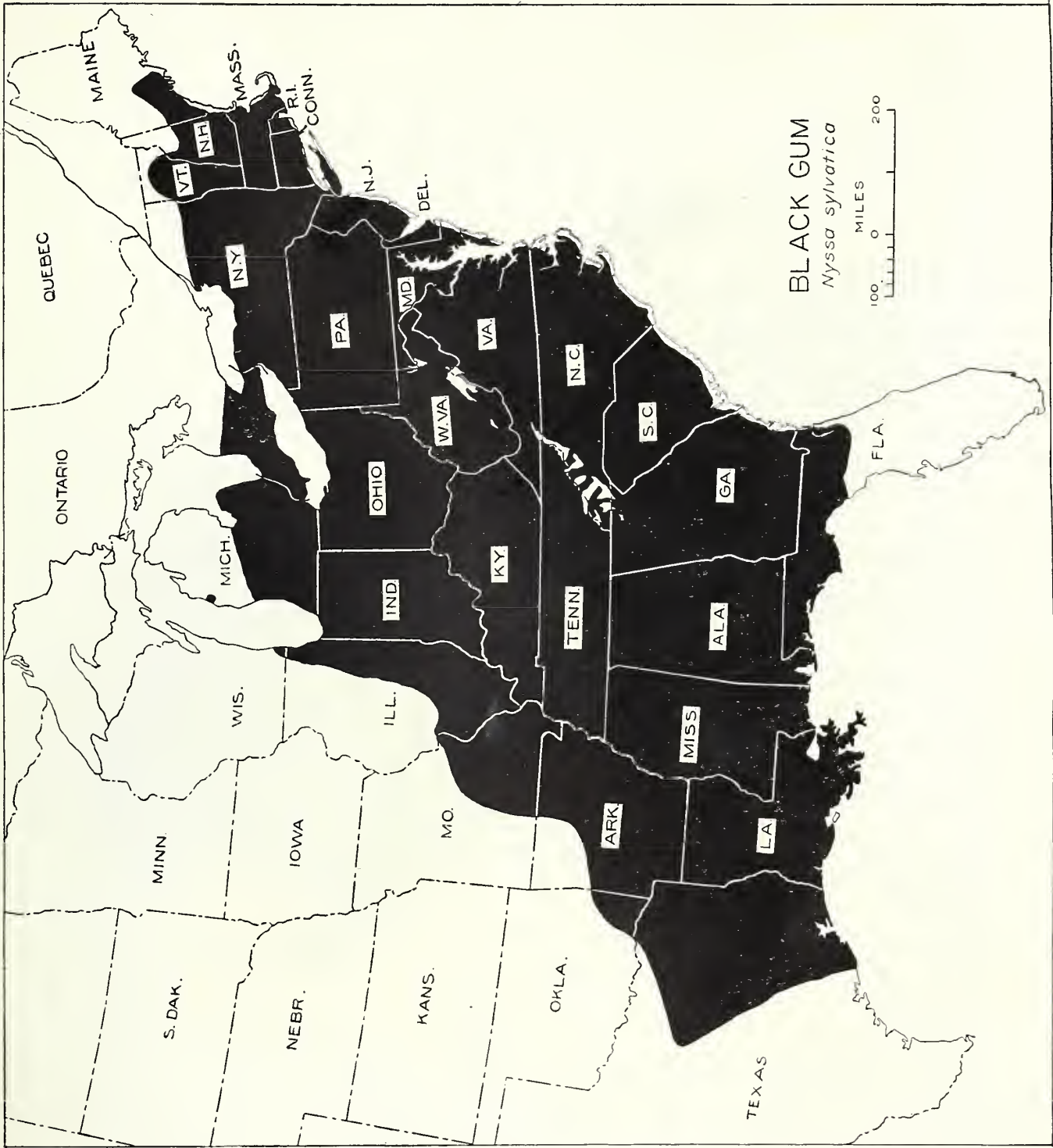
AESCULUS OCTANDRA MARSHALL

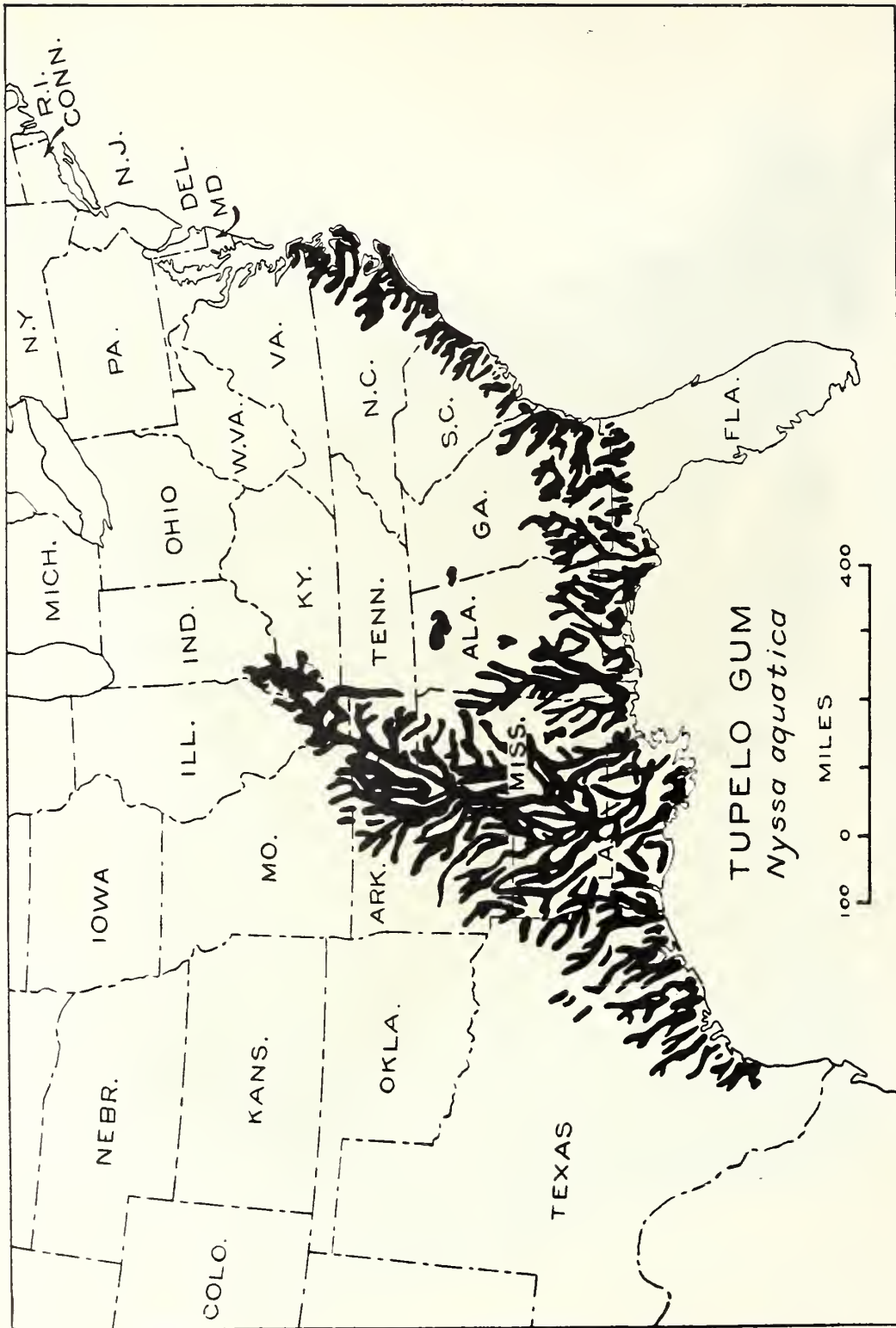


CASCARA
Rhamnus purshiana

100 0 MILES 200



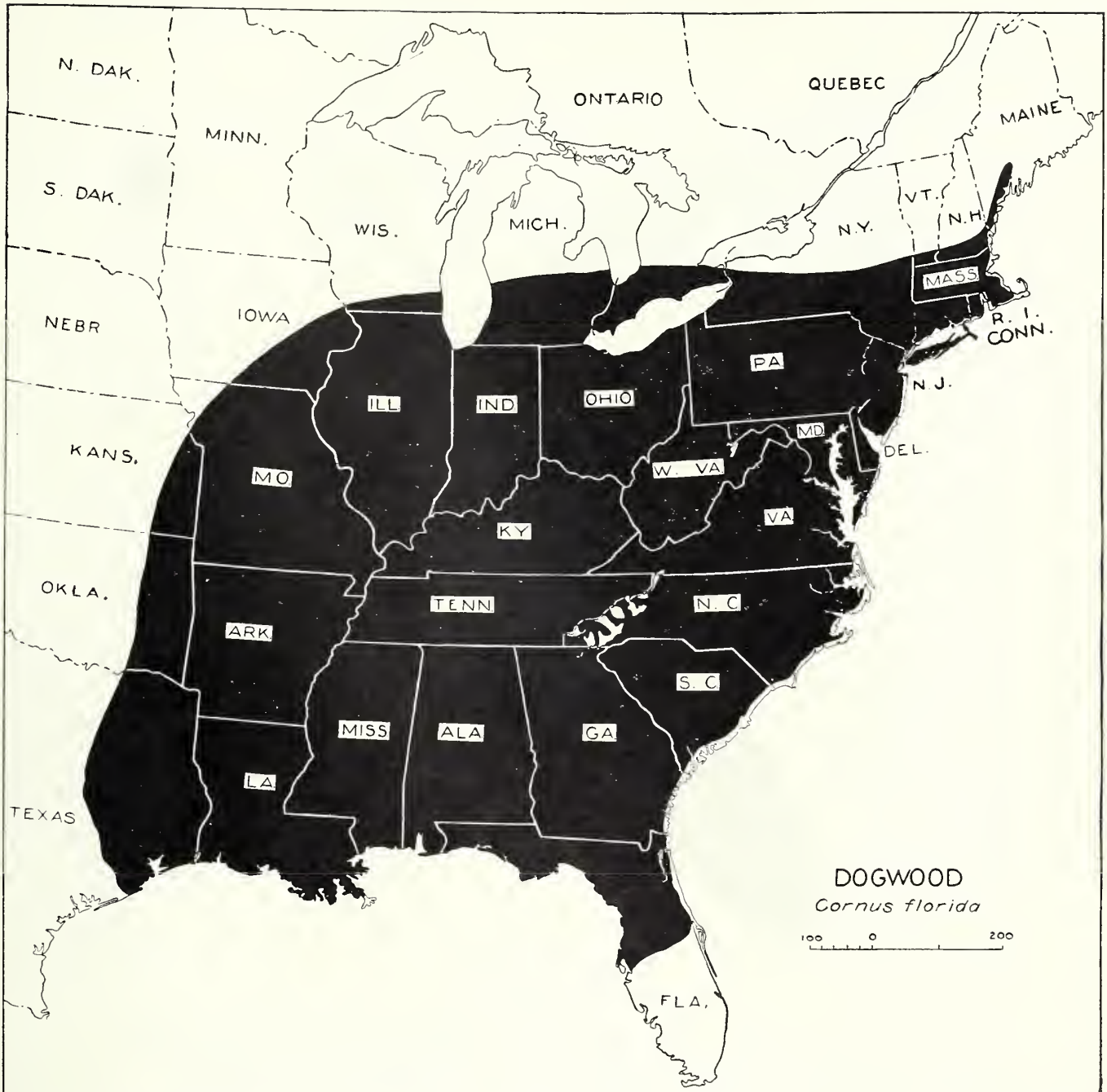


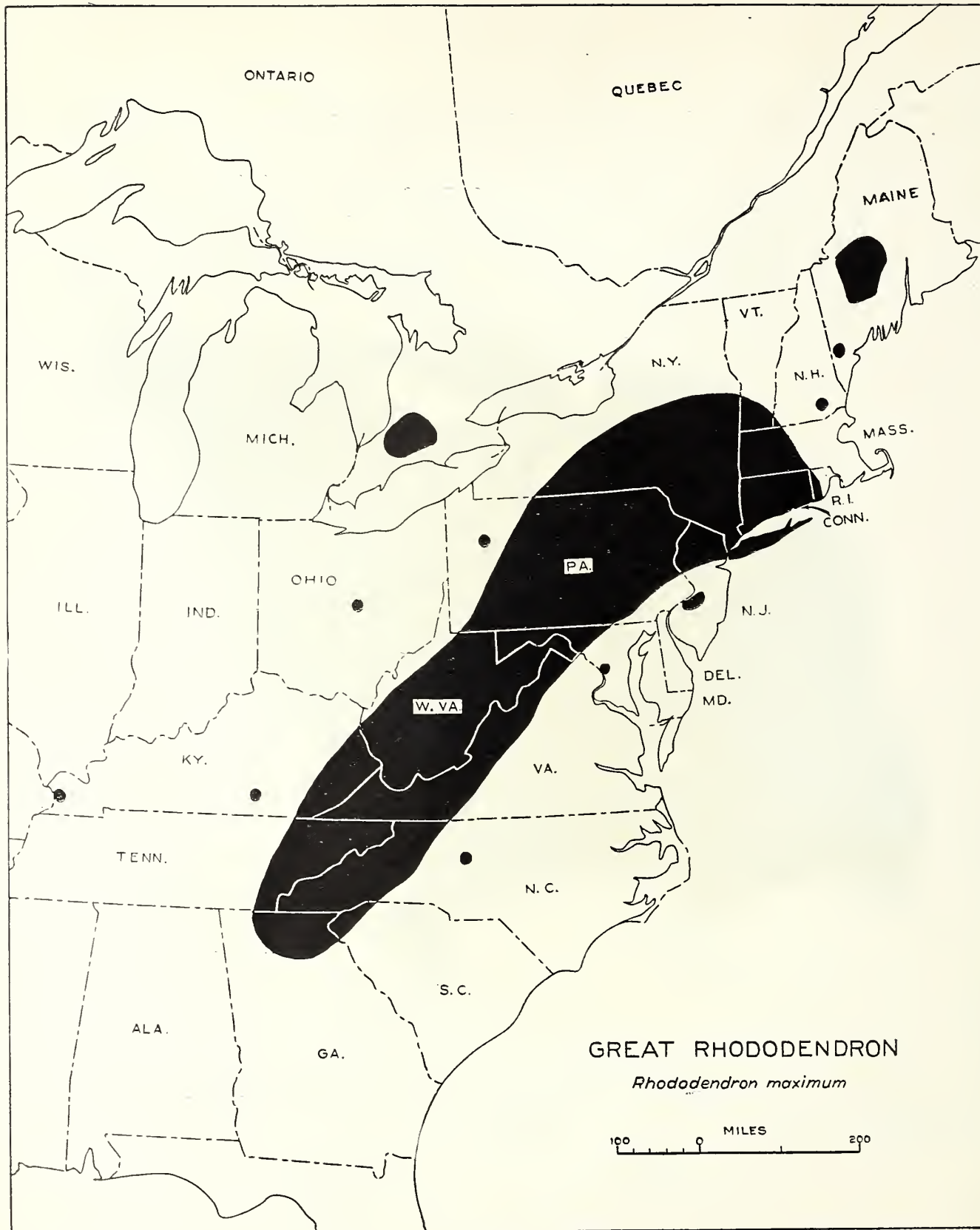


TUPELO GUM

MAP 158

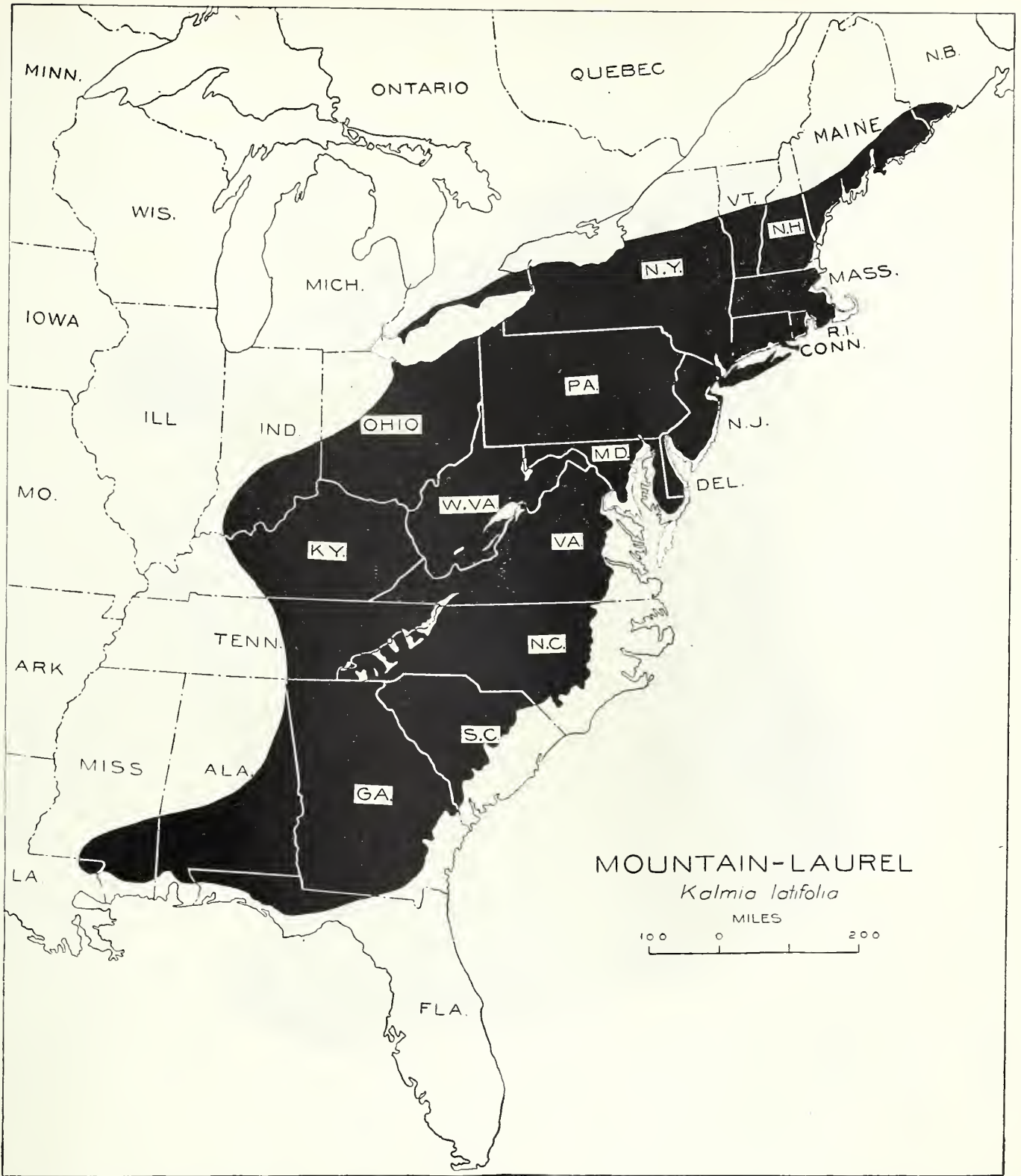
NYSSA AQUATICA LINNAEUS





GREAT RHODODENDRON
Rhododendron maximum

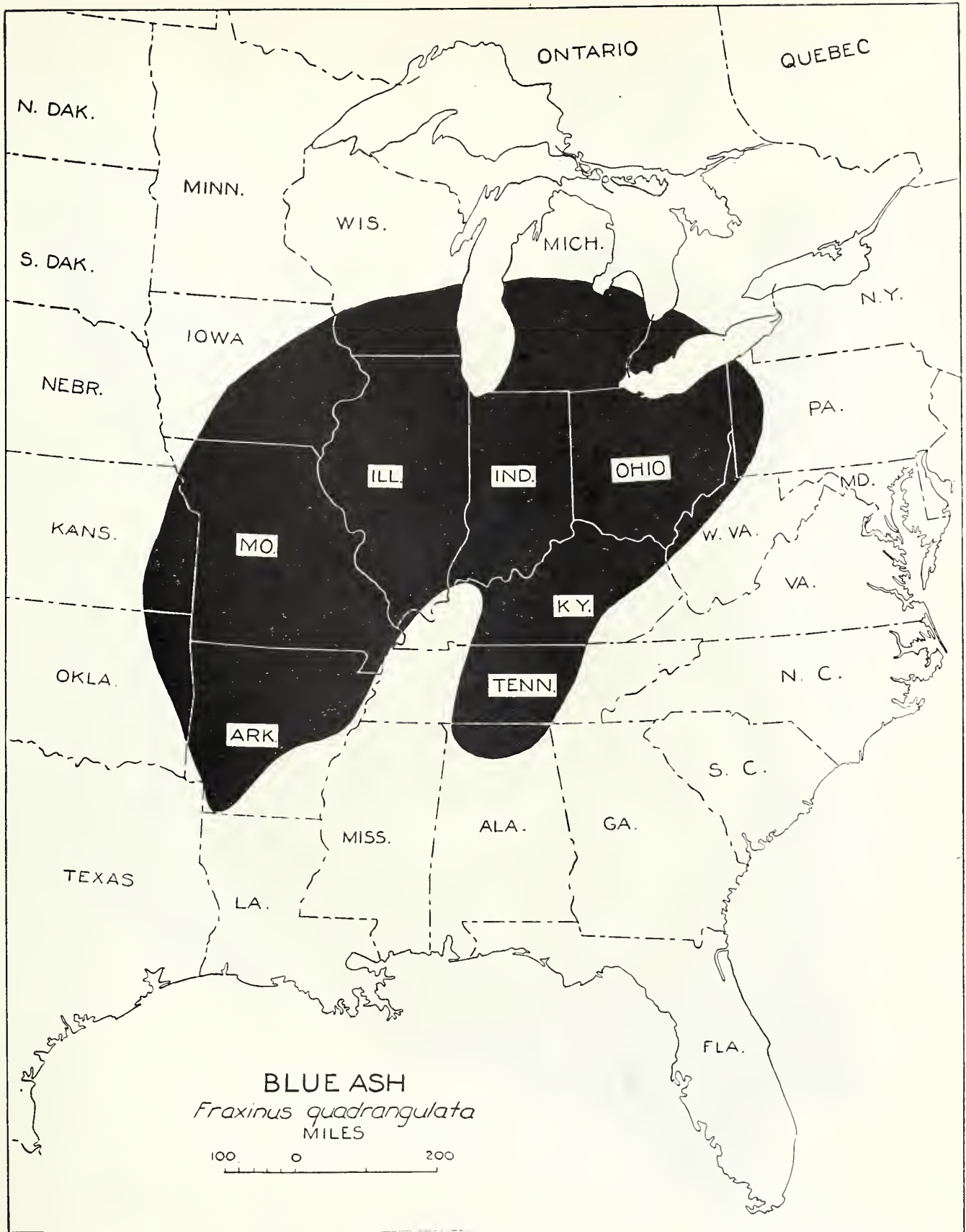
100 0 200
MILES



KALMIA LATIFOLIA LINNAEUS

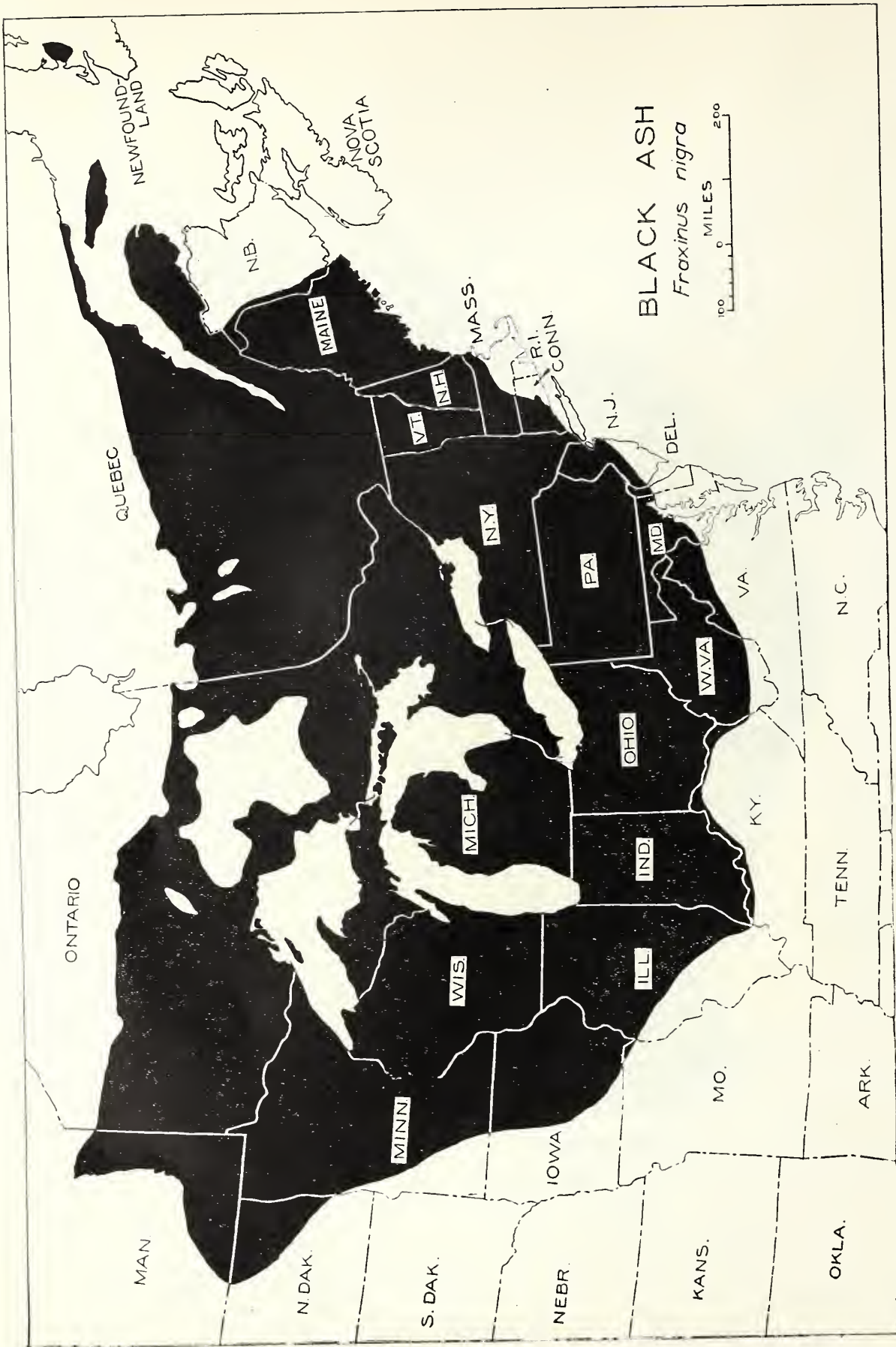
MAP 161

MOUNTAIN-LAUREL



BLUE ASH
Fraxinus quadrangulata
MILES





BLACK ASH

MAP 164

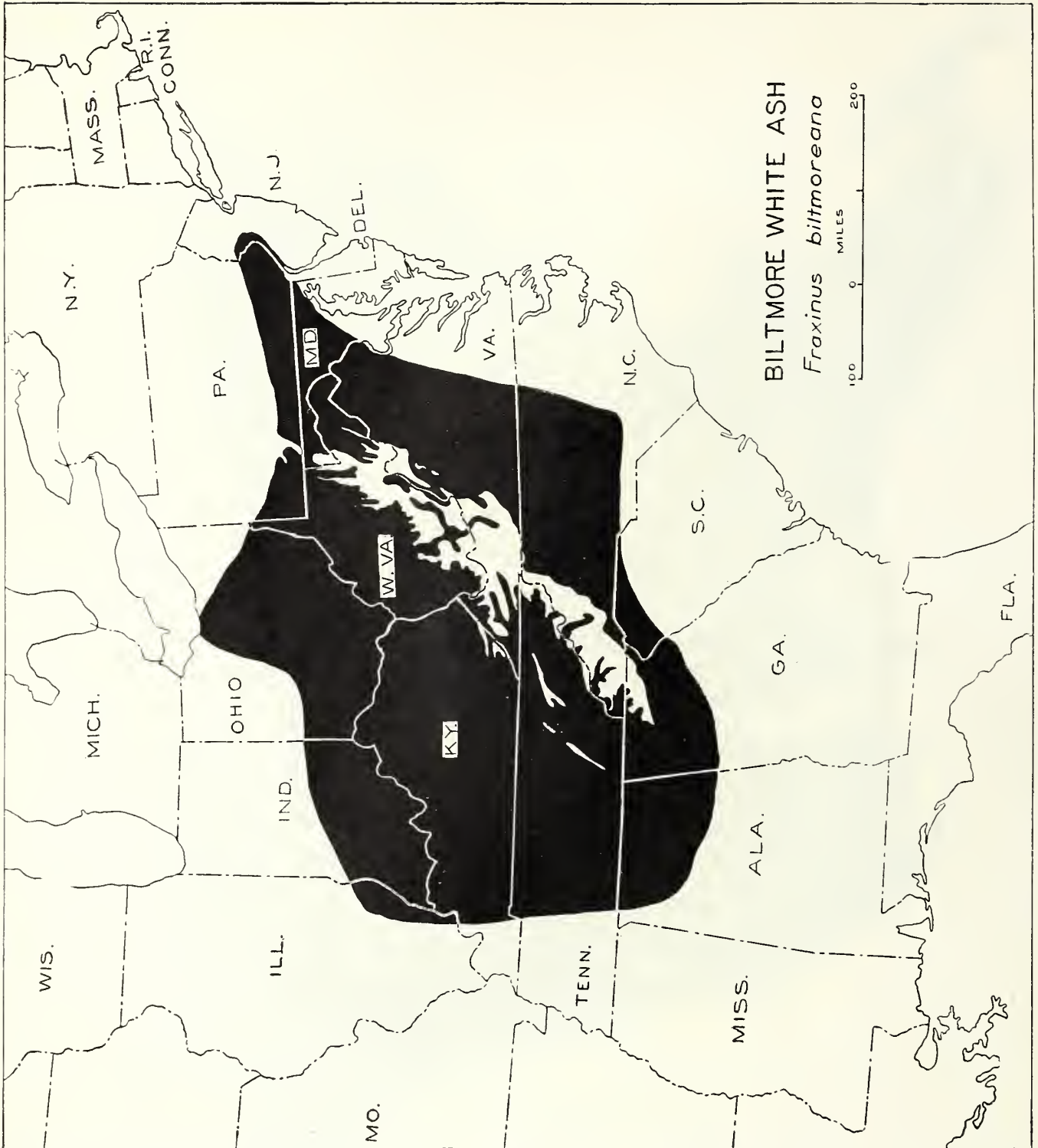
FRAXINUS NIGRA MARSHALL



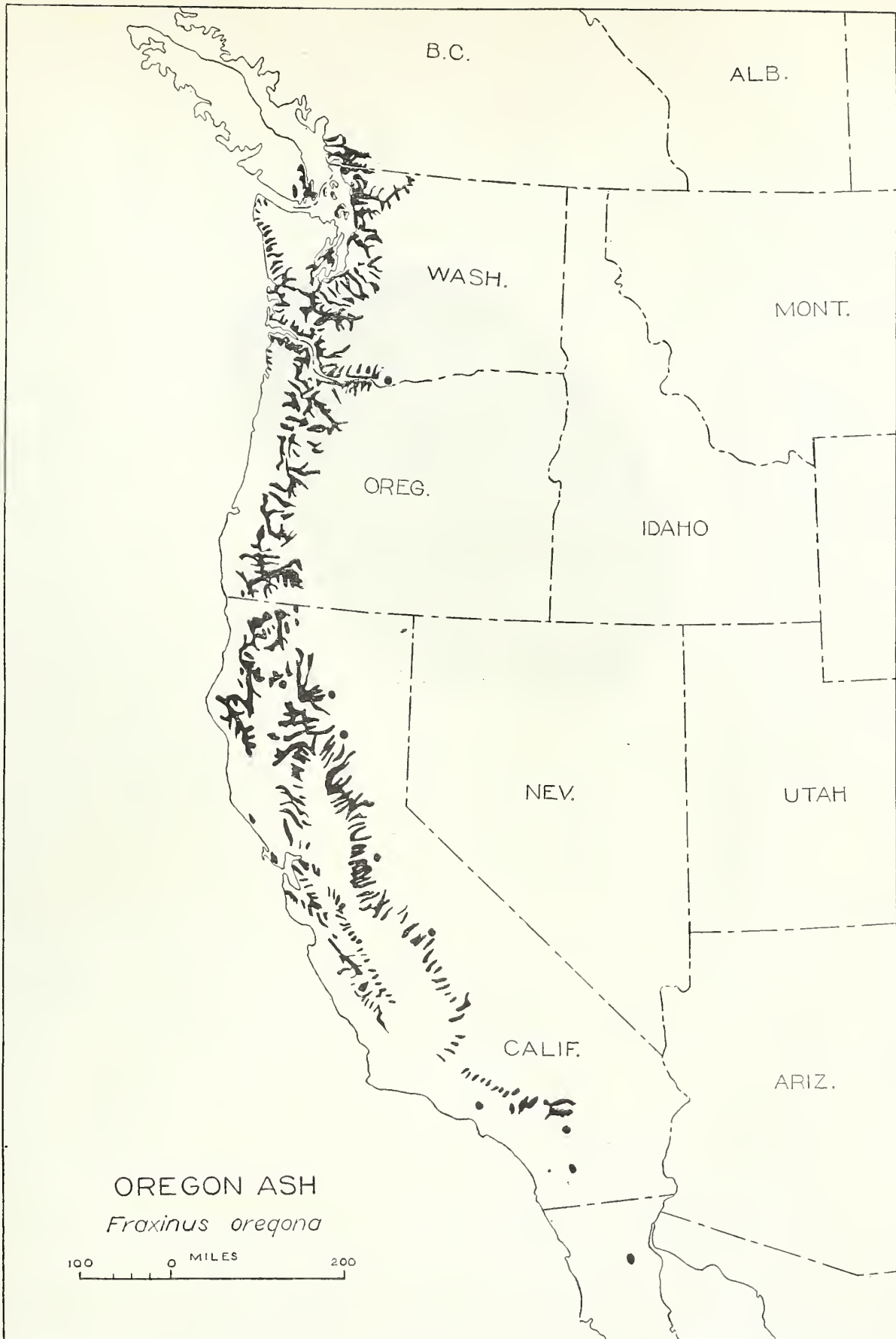
WHITE ASH

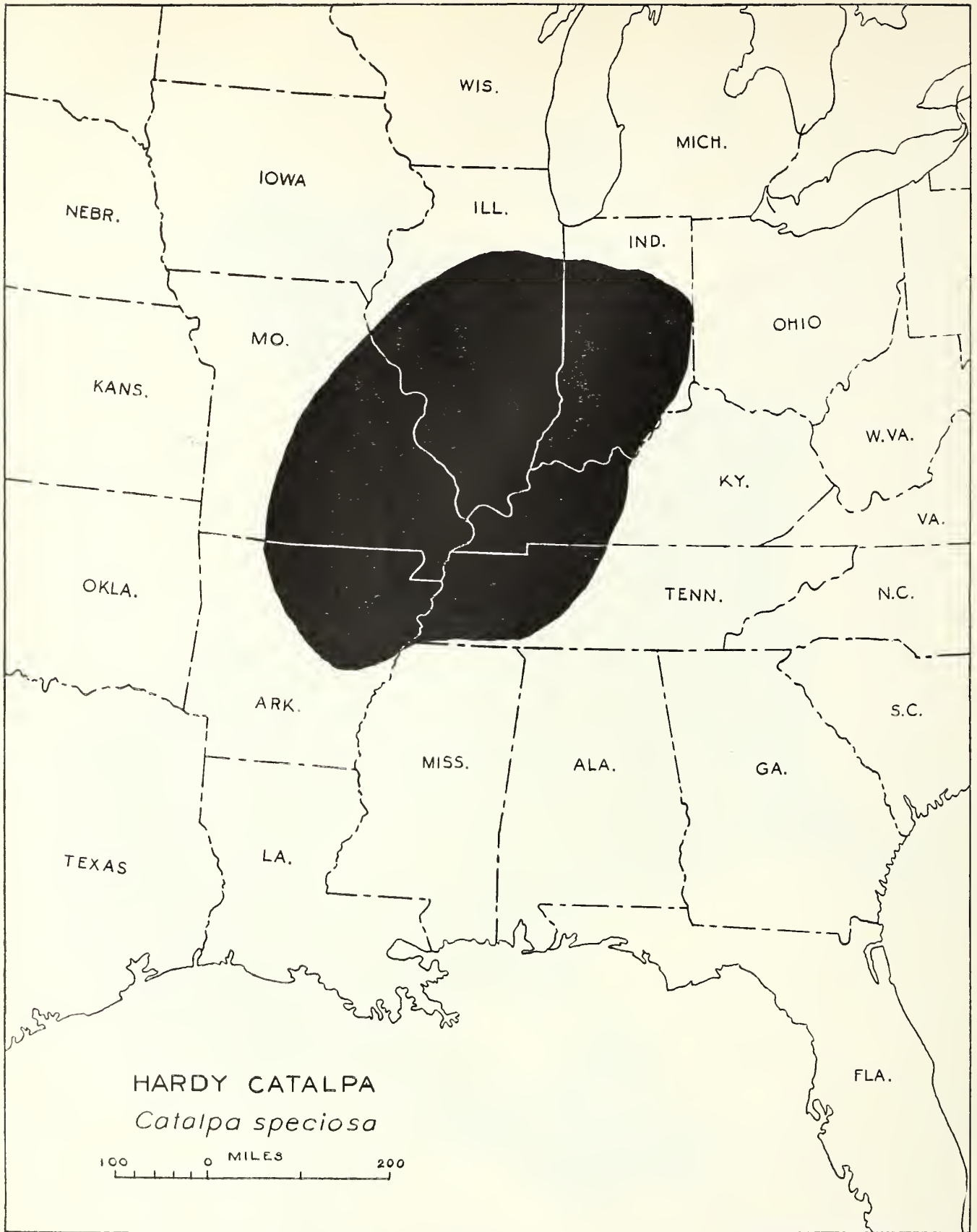
MAP 165

FRAXINUS AMERICANA LINNAEUS







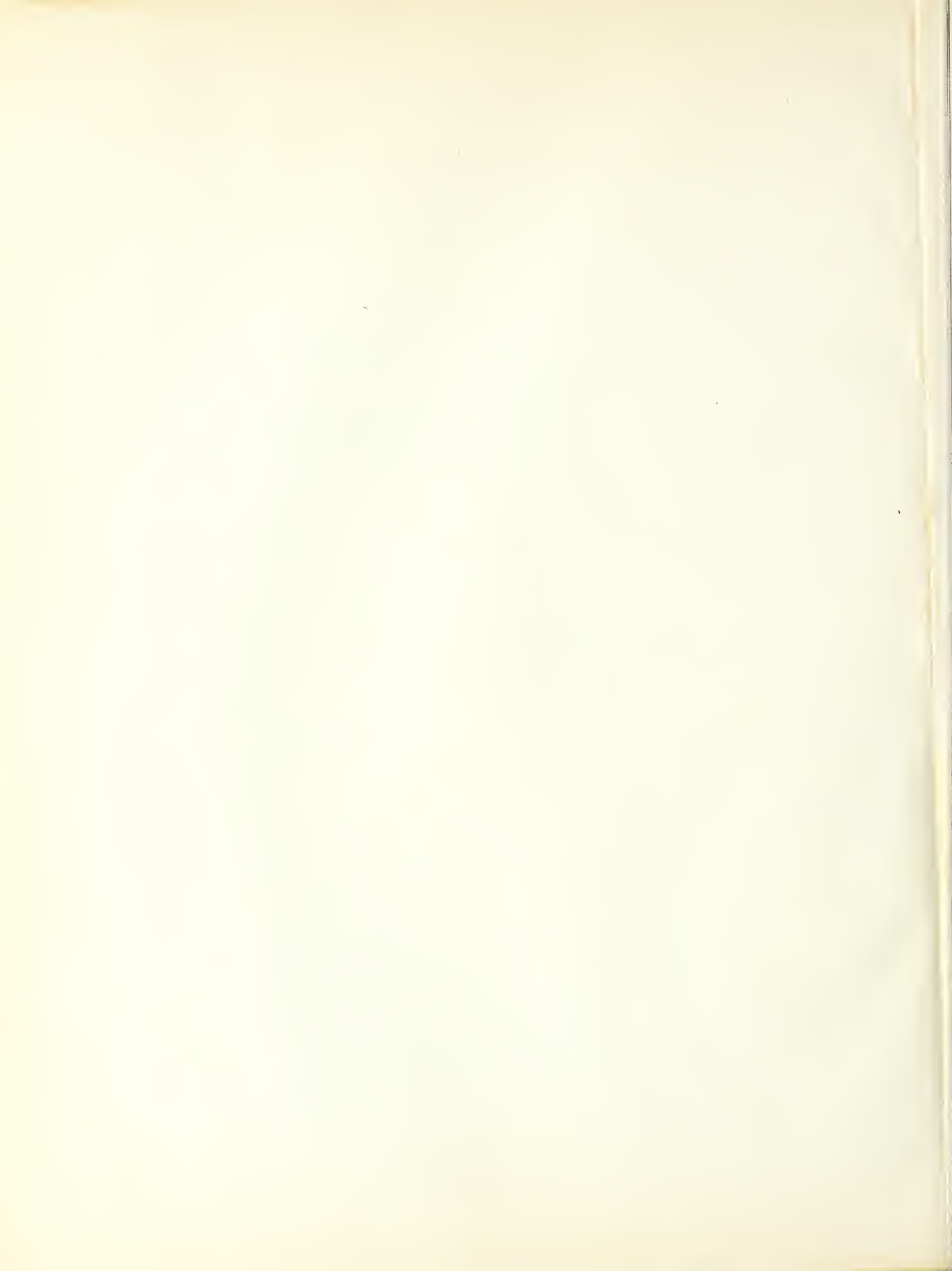


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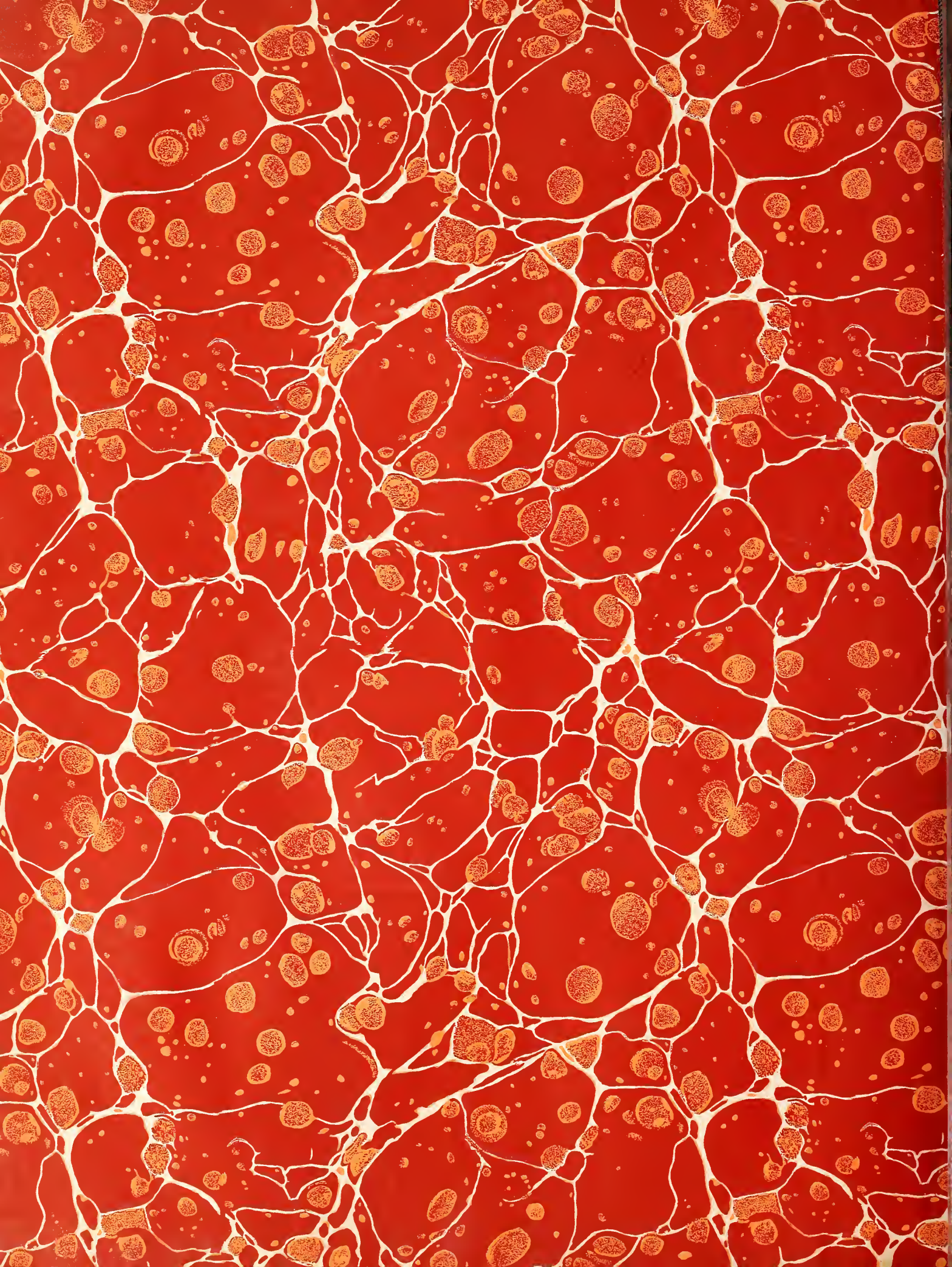
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Dovey







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