

# FINE HARDWOODS SELECTORAMA

Fine Hardwoods/American  
Walnut Association 1  
78  6d ARCHITECTURAL WOODWORK



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Walnut Association 1  
78  6d ARCHITECTURAL WOODWORK

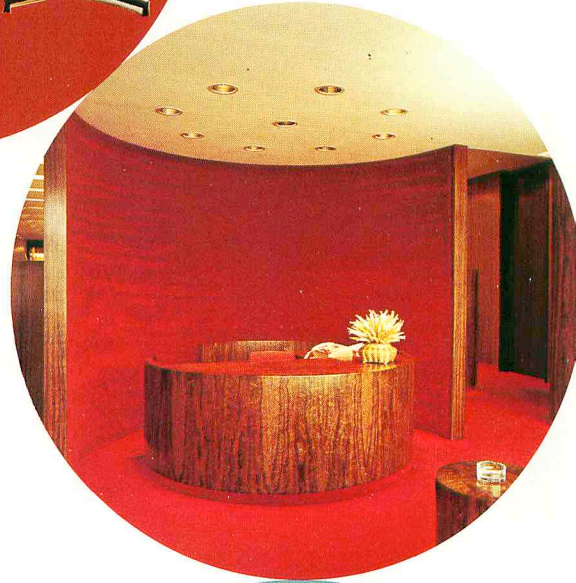
*A guide to the selection and use of the world's most popular species.*



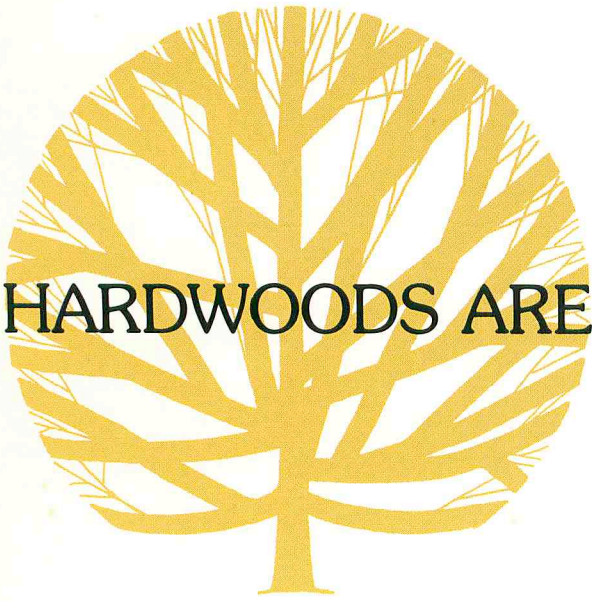
versatile



beautiful



HARDWOODS ARE



available



renewable







## INTRODUCTION

Wood is man's oldest, yet most modern material. Even in this age of synthetic and metallurgical miracles, fine hardwoods still enhance and serve innumerable needs of modern living as no other material can.

Today, as in centuries past, handsome hardwood furnishings and interiors are a hallmark of prestige, preferred by those who know and want the finest. Genuine woods have a versatile warmth and beauty that only nature can create. The individuality and beauty of hardwoods have not been successfully imitated.

A wealth of fine hardwoods is available in quantities and at prices that make them practical not only for furnishings and interiors, but for many other everyday household products which bring joy and convenience to modern living.

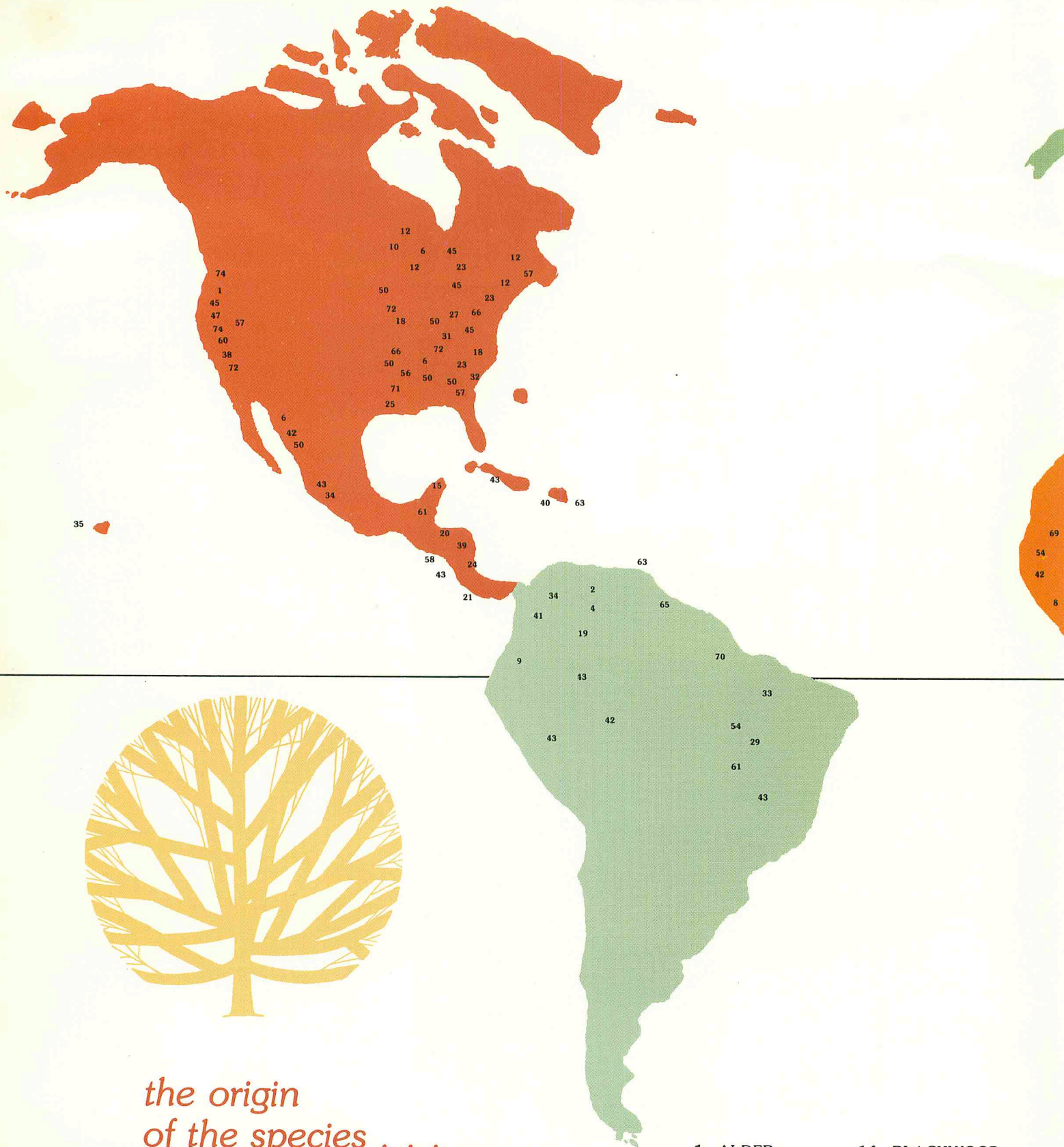
Research is still further expanding our understanding of the properties of fine hardwoods and constantly creating new uses and applications. Fortunately, our hardwood forests are a renewable natural resource. Through programs of good forest management and reforestation we can always have an ample supply of treasured hardwoods for beautiful, useful products to enrich our lives.

## SCOPE AND PURPOSE

It is the desire of Fine Hardwoods/American Walnut Association to collect in this one volume essential facts concerning the more important commercially available species of hardwoods, and a few of the softwoods, used in the manufacture of fancy face veneers and decorative lumber.

There are some 99,000 species of hardwoods in the world. Well over 4,000 are available for use. The most popular of these are discussed and illustrated throughout the various sections of this book.



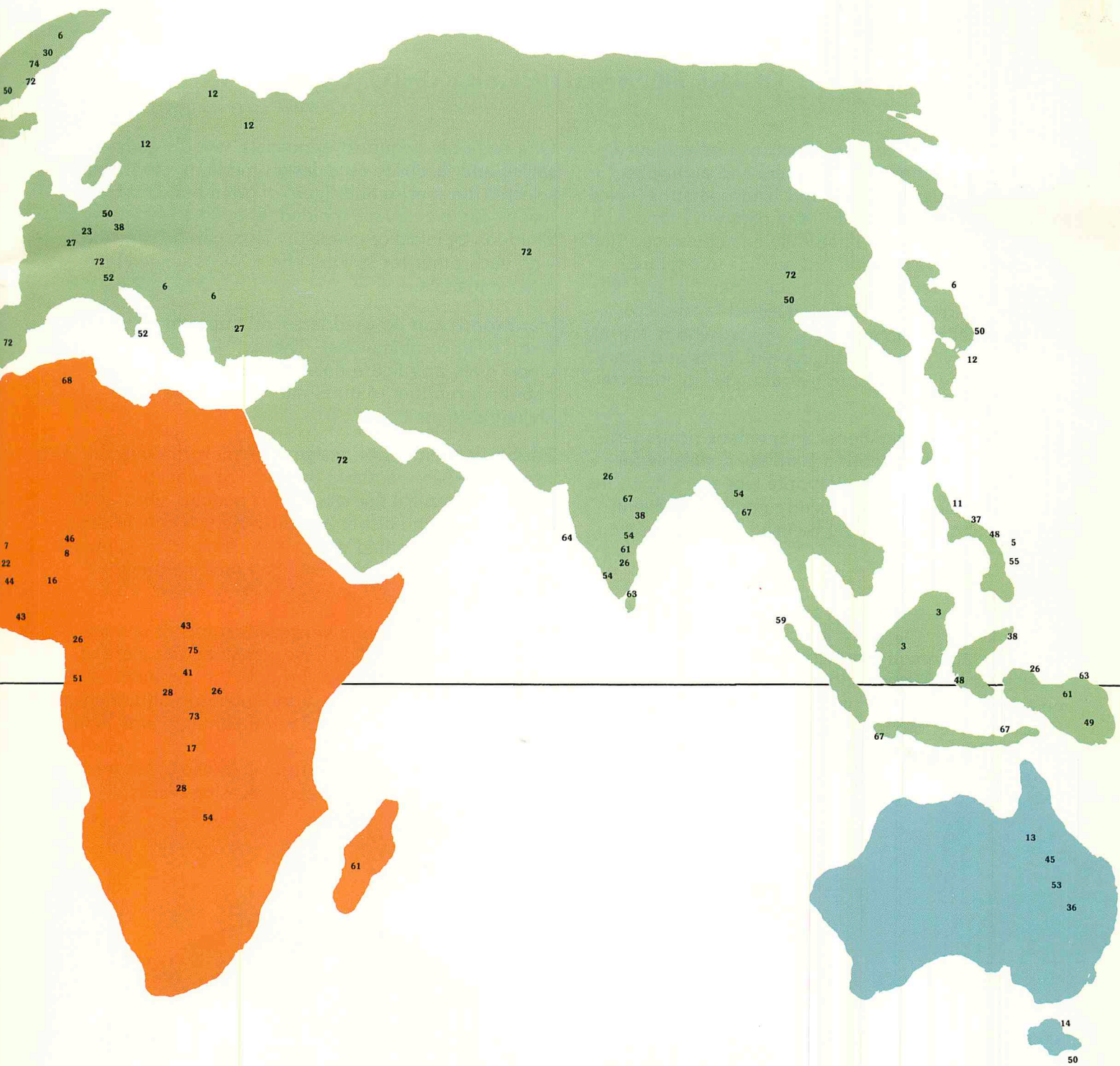


## *the origin of the species . . .*

Woods listed on this map are those of current commercial importance in North America. Corresponding numbers appear in general localities where the species grow. For more detailed source information and physical characteristics of each species, turn to alphabetical listings of woods.

- |                |               |
|----------------|---------------|
| 1. ALDER       | 14. BLACKWOOD |
| 2. AMARANTH    | 15. BOCOTE    |
| 3. AMBOYNA     | 16. BOSSE     |
| 4. ANDIROBA    | 17. BUBINGA   |
| 5. APITONG     | 18. BUTTERNUT |
| 6. ASH         | 19. CANALETTA |
| 7. AVODIRE     | 20. CAPOMO    |
| 8. AYOUS       | 21. CATIVO    |
| 9. BALSA       | 22. CHEN CHEN |
| 10. BASSWOOD   | 23. CHERRY    |
| 11. BELLA ROSA | 24. COCOBOLO  |
| 12. BIRCH      | 25. CYPRESS   |
| 13. BLACKBEAN  | 26. EBONY     |





27. ELM  
 28. GABOON  
 29. GONCALO ALVES  
 30. HAREWOOD  
 31. HICKORY  
 32. HOLLY  
 33. IMBUYA  
 34. KELOBRA  
 35. KOA  
 36. LACEWOOD  
 37. LAUAN  
 38. LAUREL  
 39. LEMONWOOD

40. LIGNUM VITAE  
 41. LIMBA  
 42. LOURO PRETO  
 43. MAHOGANY  
 44. MAKORÉ  
 45. MAPLE  
 46. MOVINGUI  
 47. MYRTLE  
 48. NARRA  
 49. NEW GUINEA WOOD  
 50. OAK  
 51. OKOUMÉ  
 52. OLIVE

53. ORIENTALWOOD  
 54. PADAUK  
 55. PALDAO  
 56. PECAN  
 57. PINE  
 58. PRIMAVERA  
 59. RAMIN  
 60. REDWOOD BURL  
 61. ROSEWOOD  
 62. SAPELE  
 63. SATINWOOD  
 64. SISSO  
 65. SUCUPIRA

66. SYCAMORE  
 67. TEAK  
 68. THUYA  
 69. TIGERWOOD  
 70. TULIPWOOD  
 71. TUPELO  
 72. WALNUT  
 73. WENGE  
 74. YEW  
 75. ZEBRAWOOD



# Fine hardwoods bring new dimensions to design . . .

Virtually unlimited creative effects can be achieved with Fine Hardwoods by designers and architects. The infinite variety of grain and figure patterns, color and textural interest found in the different hardwoods permits one to choose a naturally beautiful wood that expresses the exact mood one wishes to capture, whether it be formal or informal, friendly and intimate, or impressive and distinguished, austere or lavish, casual or sophisticated. Some woods are almost silken, with ever-changing highlights and shadows, others are strong, sturdy and rugged in character.

Whether creating traditional adaptations or modern originals, one can choose a hardwood suitable for any design. Either an old favorite wood or one of the many interesting woods recently made available in commercial quantities may be used for interiors or home furnishings.

One can further select from a wide range of figure and grain patterns within each species. Like finger-prints, the grain patterns of any two trees are never exactly alike. This ever-interesting individualism is one of the most appealing factors of genuine woods when compared with monotonous patterns of substitutes, imitations, and other materials. The natural figure and grain variations, like all of nature's own designs nearly always blend with each other.

One has only begun to appreciate wood's great versatility and flexibility as a design medium after having selected the species and figure of grain pattern. Hardwoods can be carved, molded, shaped and bent. They can be inlaid or overlaid. They can be combined with each other for striking effect, or combined with other materials.

Hardwoods can be used in solid lumber or plywood form, or in combinations. The naturally interesting wood grain and figure patterns can be featured in charming random, natural effects or matched in striking designs.

Further refinement of design is possible through the use of finishes. Today's finishes are generally transparent and reveal the wood's full beauty. Also, with durable modern finishes a great variety of light to dark effects can be created within a single species, supplementing the broad color change found naturally in hardwoods.

Because of these many versatile features, it is small wonder that hardwoods have remained the mark of fine quality and prestige through the centuries preferred by designers of the finest interiors, furnishings, musical instruments, home entertainment items, and other objects of beauty and service. No other material offers the designer or architect such inspiration for originality of design, with such pleasing results.

## color range

A wide spectrum of colors abound naturally in fine hardwoods. Pale almond tones and citron yellows to tawny browns and deep sultry blackbrowns, and many exciting tints and shades of red, yellow, violet, orange, green and gray are found alone and in various combinations. Special finishes further expand hardwood's natural color range to create unlimited color effects.







AFRICAN MAHOGANY  
*(Highly Figured)*



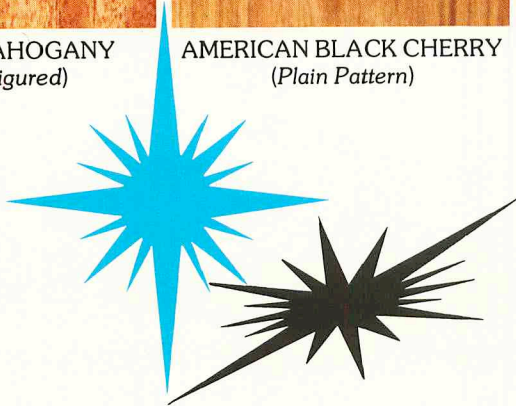
AMERICAN BLACK CHERRY  
*(Plain Pattern)*



ENGLISH BROWN OAK  
*(Quartered Figure)*

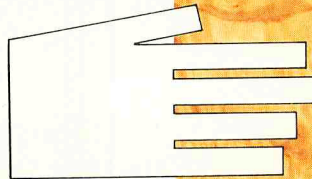


AMERICAN BLACK WALNUT  
*(Character Marked)*



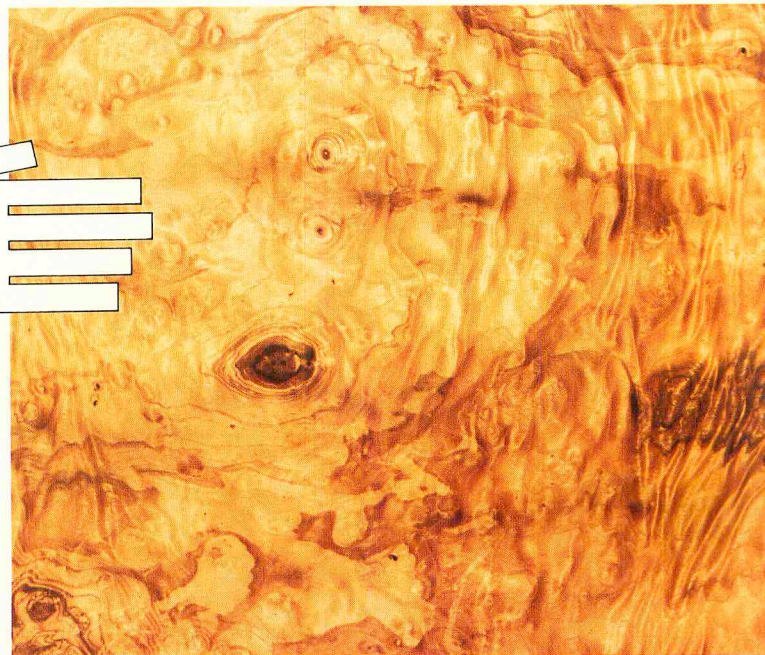
## visual texture

The natural grain and figure patterns inherent in all fine hardwoods add a visual design dimension of depth to fine hardwood products. These grain markings and natural character marks add to surface interest. Highlights and shadows create an ever-changing panorama of beauty as light strikes the wood from various angles.



## physical texture

Wood is pleasant and friendly to the touch as well as to the eye. It is warm in winter, cool in summer and is always comfortable to live with. The three dimensional beauty of wood with a depth of grain structure make one want to reach out and feel each beautiful piece of hardwood.



OLIVE ASH *(Burl Pattern)*



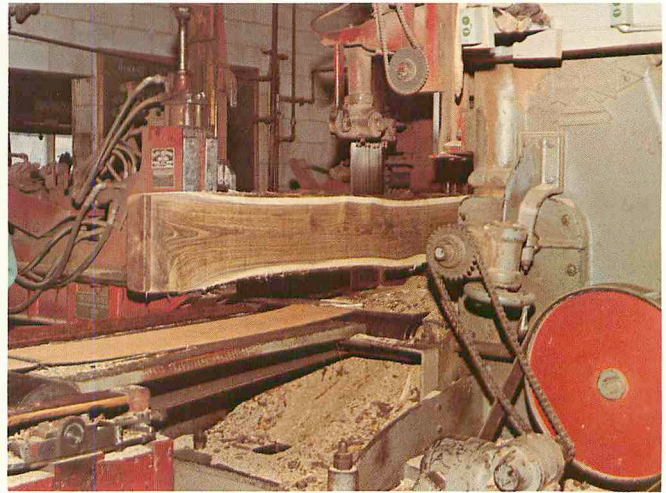
# How modern technology transforms the hardwood log into new

The production of lumber and veneer represents one of the first manufacturing industries established in North America. Early colonists cleared the land for agriculture. At the same time they needed housing and furniture for their families, their businesses, their churches, their schools and their government. What then was more natural than converting the timber into useful materials? A further incentive to lumber production in colonial days was recognition by the Old World of the value of the North American forest resource. In Europe and Asia timber was by and large in short supply, thus wood became one of the most important of the early export commodities.

The lumber industry in North America has come a long way from its early beginnings in the early 1600's. Even though today's sawyers and veneer slicer operators are producing a product equally important and just as versatile as the materials produced in the early years, very little of the technology is the same. In the modern mills many of the awesome tasks once done by hand are now accomplished with computerized machines that seem to know no limits of potential and ingenuity. Production levels have been greatly increased with no sacrifice in quality. In fact, the quality of boards manufactured today far exceeds the quality produced by mills in earlier days.



LOGGING



LUMBER SAWMILL

*from the tree . . .*

*we turn the resource into*



KITCHENETTE

*for the home, office or school*



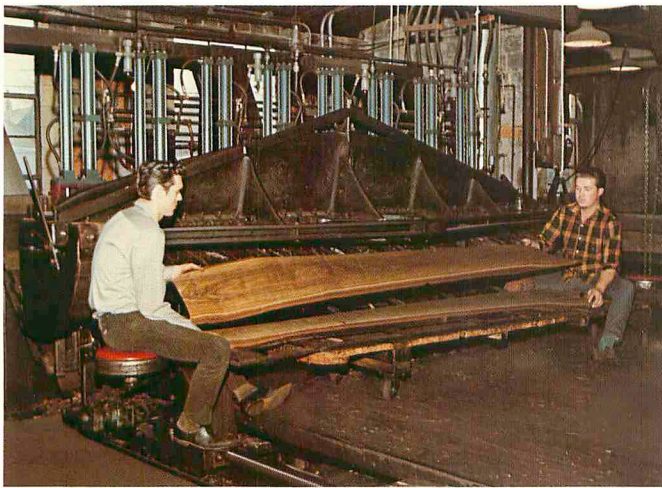
# forms of beauty and usefulness . . .

Not all is changed however. The art and science of more fully capturing from nature the exotic figure patterns found in hardwood trees still challenges today's lumber and veneer manufacturer. Each species of hardwood has unique characteristics and physical properties. Some woods are naturally darker than others, some bend more easily, some are stronger, and each has its own figure pattern. The final touch of the master craftsman is still the deciding factor separating products of the highest quality from those which are just routine.

Some of man's most recent opportunities to make scientific advances have been in the fields of waste

reduction and energy development. In the modern integrated mill nothing is allowed to go to waste. The bark is removed from the log before it enters the mill and processed for soil mulch, or low cost fuel. Edgings, trimmings, scraps and sawdust are used as raw materials for pulp, paper or particleboard, or locally by the mill for fuel in modern wood conversion energy systems.

The wood industry is proud of its past, and it is looking confidently and optimistically toward the future.



VENEER SLICER



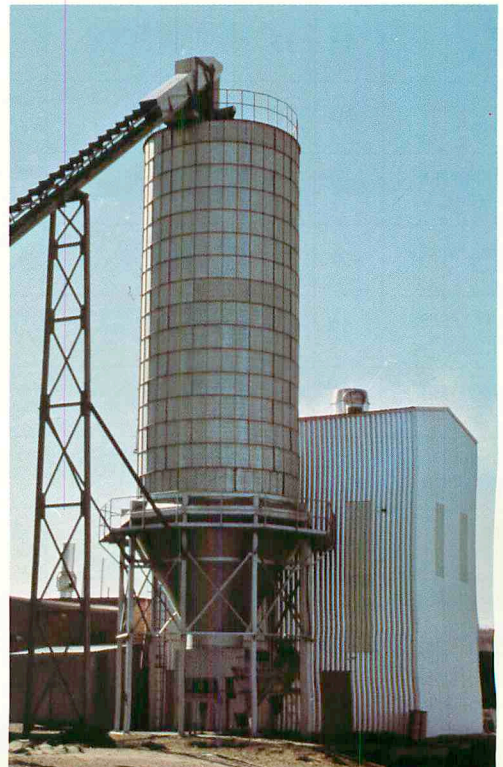
MANUFACTURING

*a useful product*



CONFERENCE ROOM

*and the unused materials are  
converted into valuable energy*



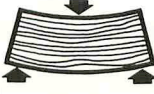
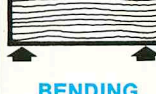
WOOD WASTE CONVERTER



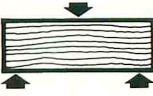
# Comparative physical properties of some popular species . . .

| SPECIES                                                  | SPECIFIC GRAVITY<br>Based on green volume and<br>oven dry weight | WEIGHT<br>pounds per cubic ft. at<br>12% moisture content | STRENGTH<br>compressive strength<br>(endwise) | STIFFNESS | HARDNESS | SHOCK<br>RESISTING<br>ABILITY | BENDING<br>STRENGTH | SHRINKAGE<br>(Volumetric)<br>A low rating in this<br>property is desirable |
|----------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------|-----------|----------|-------------------------------|---------------------|----------------------------------------------------------------------------|
| ALDER, RED<br><i>Alnus rubra</i>                         | .37                                                              | 28                                                        | 82                                            | 139       | 48       | 71                            | 76                  | 123                                                                        |
| ASH, WHITE<br>Average of 4 species                       | .54                                                              | 41                                                        | 106                                           | 161       | 108      | 139                           | 110                 | 126                                                                        |
| ASPEN<br><i>Populus tremuloides</i>                      | .35                                                              | 27                                                        | 58                                            | 107       | 31       | 67                            | 63                  | 111                                                                        |
| AVODIRE*<br><i>Turraeanthus africanus</i>                |                                                                  | 36                                                        | 97                                            | 125       | 93       | 81                            | 96                  | 105                                                                        |
| BASSWOOD<br><i>Tilia americana</i>                       | .32                                                              | 26                                                        | 62                                            | 126       | 31       | 54                            | 61                  | 158                                                                        |
| BEECH<br><i>Fagus grandifolia</i>                        | .56                                                              | 45                                                        | 94                                            | 169       | 96       | 135                           | 102                 | 162                                                                        |
| BIRCH, SWEET<br><i>Betula lenta</i>                      | .60                                                              | 46                                                        | 105                                           | 207       | 104      | 159                           | 117                 | 154                                                                        |
| BIRCH, YELLOW<br><i>Betula alleghaniensis</i>            | .55                                                              | 43                                                        | 98                                            | 174       | 86       | 171                           | 106                 | 166                                                                        |
| BUBINGA*<br><i>Gulbournia demessii</i>                   |                                                                  | 55                                                        |                                               |           | 157      |                               |                     | 148                                                                        |
| BUTTERNUT<br><i>Juglans cinerea</i>                      | .36                                                              | 27                                                        | 68                                            | 115       | 40       | 80                            | 64                  | 100                                                                        |
| CATALPA, NORTHERN<br><i>Catalpa speciosa</i>             | .38                                                              | 29                                                        | 59                                            | 110       | 43       | 95                            | 63                  | 73                                                                         |
| CATIVO<br><i>Priria Copaifera</i>                        | .40                                                              | 29                                                        | 60                                            | 101       | 50       | 60                            | 68                  | 85                                                                         |
| CHERRY, BLACK<br><i>Prunus serotina</i>                  | .47                                                              | 35                                                        | 100                                           | 150       | 72       | 112                           | 93                  | 113                                                                        |
| CHESTNUT<br><i>Castanea dentata</i>                      | .40                                                              | 30                                                        | 70                                            | 112       | 50       | 69                            | 68                  | 111                                                                        |
| COTTONWOOD, EASTERN<br><i>Populus deltoides</i>          | .37                                                              | 28                                                        | 64                                            | 123       | 36       | 73                            | 62                  | 138                                                                        |
| CUCUMBER TREE, YELLOW<br><i>Magnolia acuminata</i>       | .44                                                              | 34                                                        | 88                                            | 175       | 57       | 103                           | 90                  | 137                                                                        |
| CYPRESS (BALD CYPRESS)<br><i>Taxodium distichum</i>      | .42                                                              | 32                                                        | 92                                            | 136       | 52       | 76                            | 79                  | 104                                                                        |
| DOGWOOD, FLOWERING<br><i>Cornus florida</i>              | .64                                                              | 51                                                        | 101                                           | 124       | 154      | 192                           | 100                 | 194                                                                        |
| EBONY (NIGERIAN)*<br><i>Diospyros crassiflora</i>        |                                                                  | 63                                                        | 174                                           | 230       | 258      | 255                           | 196                 |                                                                            |
| ELM, AMERICAN<br><i>Ulmus Americana</i>                  | .46                                                              | 36                                                        | 74                                            | 130       | 66       | 123                           | 85                  | 145                                                                        |
| SWEETGUM (RED and SAP)<br><i>Liquidambar styraciflua</i> | .44                                                              | 34                                                        | 77                                            | 134       | 60       | 99                            | 86                  | 150                                                                        |



| SPECIES                                                   | SPECIFIC GRAVITY<br>Based on green volume and<br>oven dry weight | WEIGHT<br>pounds per cubic ft. at<br>12% moisture content | <br>STRENGTH<br>compressive strength<br>(endwise) | <br>STIFFNESS | <br>HARDNESS | <br>SHOCK<br>RESISTING<br>ABILITY | <br>BENDING<br>STRENGTH | <br>SHRINKAGE<br>(Volumetric)<br>A low rating in this<br>property is desirable |
|-----------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TUPELO, WATER<br><i>Nyssa aquatica</i>                    | .46                                                              | 35                                                        | 87                                                                                                                                 | 127                                                                                            | 78                                                                                             | 81                                                                                                                   | 82                                                                                                         | 122                                                                                                                                                               |
| HACKBERRY<br><i>Celtis occidentalis</i>                   | .49                                                              | 37                                                        | 72                                                                                                                                 | 108                                                                                            | 74                                                                                             | 145                                                                                                                  | 76                                                                                                         | 138                                                                                                                                                               |
| HICKORIES, TRUE<br>Average of 4 species                   | .65                                                              | 51                                                        | 123                                                                                                                                | 188                                                                                            | 142                                                                                            | 292                                                                                                                  | 138                                                                                                        | 182                                                                                                                                                               |
| HOLLY<br><i>Ilex opaca</i>                                | .50                                                              | 40                                                        | 71                                                                                                                                 | 102                                                                                            | 86                                                                                             | 124                                                                                                                  | 76                                                                                                         | 155                                                                                                                                                               |
| LIMBA*<br><i>Terminalia superba</i>                       | .45                                                              | 34                                                        | 73                                                                                                                                 | 101                                                                                            | 70                                                                                             |                                                                                                                      | 58                                                                                                         | 140                                                                                                                                                               |
| LOCUST, BLACK<br><i>Robinia pseudoacacia</i>              | .66                                                              | 48                                                        | 168                                                                                                                                | 220                                                                                            | 161                                                                                            | 170                                                                                                                  | 157                                                                                                        | 103                                                                                                                                                               |
| MAHOGANY, AFRICAN<br><i>Khaya ivorensis</i>               | .43                                                              | 31                                                        | 91                                                                                                                                 | 140                                                                                            | 68                                                                                             | 80                                                                                                                   | 87                                                                                                         | 92                                                                                                                                                                |
| MAHOGANY, CUBAN<br><i>Swietenia mahogany</i>              | .57                                                              | 41                                                        | 95                                                                                                                                 | 123                                                                                            | 114                                                                                            | 71                                                                                                                   | 88                                                                                                         | 60                                                                                                                                                                |
| MAHOGANY,<br>CENTRAL AMERICAN<br><i>Swietenia species</i> | .45                                                              | 32                                                        | 111                                                                                                                                | 145                                                                                            | 76                                                                                             | 83                                                                                                                   | 98                                                                                                         | 79                                                                                                                                                                |
| MAKORE<br><i>Tieghemella heckelii</i>                     |                                                                  | 40                                                        |                                                                                                                                    |                                                                                                |                                                                                                |                                                                                                                      |                                                                                                            | 124                                                                                                                                                               |
| MAPLE, RED<br><i>Acer rubrum</i>                          | .49                                                              | 38                                                        | 87                                                                                                                                 | 158                                                                                            | 79                                                                                             | 110                                                                                                                  | 93                                                                                                         | 128                                                                                                                                                               |
| MAPLE, SILVER<br><i>Acer saccharinum</i>                  | .44                                                              | 33                                                        | 71                                                                                                                                 | 106                                                                                            | 65                                                                                             | 93                                                                                                                   | 69                                                                                                         | 114                                                                                                                                                               |
| MAPLE, SUGAR<br><i>Acer saccharum</i>                     | .57                                                              | 44                                                        | 106                                                                                                                                | 178                                                                                            | 115                                                                                            | 138                                                                                                                  | 114                                                                                                        | 147                                                                                                                                                               |
| MYRTLE<br><i>Umbellularia californica</i>                 | .51                                                              | 39                                                        | 76                                                                                                                                 | 89                                                                                             | 106                                                                                            | 144                                                                                                                  | 72                                                                                                         | 116                                                                                                                                                               |
| NARRA*<br><i>Pterocarpus indicus</i>                      | .52                                                              | 42                                                        | 148                                                                                                                                | 159                                                                                            | 124                                                                                            | 149                                                                                                                  | 136                                                                                                        | 69                                                                                                                                                                |
| OAKS, COMMERCIAL RED<br>Average of 9 species              | .56                                                              | 44                                                        | 92                                                                                                                                 | 168                                                                                            | 103                                                                                            | 139                                                                                                                  | 101                                                                                                        | 143                                                                                                                                                               |
| OAKS, COMMERCIAL WHITE<br>Average of 6 species            | .59                                                              | 47                                                        | 93                                                                                                                                 | 149                                                                                            | 109                                                                                            | 125                                                                                                                  | 99                                                                                                         | 155                                                                                                                                                               |
| ORIENTALWOOD*<br><i>Endiandro palmerstoni</i>             |                                                                  | 44                                                        | 122                                                                                                                                | 150                                                                                            | 117                                                                                            |                                                                                                                      | 105                                                                                                        |                                                                                                                                                                   |
| OSAGE-ORANGE*<br><i>Maclura pomifera</i>                  | .76                                                              |                                                           | 147                                                                                                                                | 153                                                                                            | 246                                                                                            | 397                                                                                                                  | 157                                                                                                        | 89                                                                                                                                                                |
| PADAUK (AFRICAN)*<br><i>Pterocarpus soyauxii</i>          |                                                                  | 43                                                        |                                                                                                                                    |                                                                                                | 137                                                                                            |                                                                                                                      |                                                                                                            | 82                                                                                                                                                                |
| PADAUK (ANDAMAN)*<br><i>Pterocarpus dalbergioides</i>     | .62                                                              | 45                                                        | 152                                                                                                                                | 165                                                                                            | 130                                                                                            | 101                                                                                                                  | 130                                                                                                        | 78                                                                                                                                                                |



| SPECIES                                                      | SPECIFIC GRAVITY<br>Based on green volume and<br>oven dry weight | WEIGHT<br>pounds per cubic ft. at<br>12% moisture content | <br>STRENGTH<br>compressive strength<br>(endwise) | <br>STIFFNESS | <br>HARDNESS | <br>SHOCK<br>RESISTING<br>ABILITY | <br>BENDING<br>STRENGTH | <br>SHRINKAGE<br>(Volumetric)<br>A low rating in this<br>property is desirable |
|--------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PADAUK (BURMA)*<br><i>Pterocarpus macrocarpus</i>            | .75                                                              | 54                                                        | 187                                                                                                                                | 196                                                                                            | 198                                                                                            | 159                                                                                                                  | 176                                                                                                        |                                                                                                                                                                   |
| PALDAO<br><i>Dracontomelum dao</i>                           | .59                                                              | 44                                                        |                                                                                                                                    |                                                                                                | 94                                                                                             |                                                                                                                      |                                                                                                            | 127                                                                                                                                                               |
| PECAN<br><i>Carya illinoensis</i>                            | .60                                                              | 47                                                        | 104                                                                                                                                | 162                                                                                            | 142                                                                                            | 156                                                                                                                  | 110                                                                                                        | 137                                                                                                                                                               |
| PEARWOOD (EUROPEAN)<br><i>Pyrus communis</i>                 |                                                                  | 43                                                        |                                                                                                                                    |                                                                                                | 94                                                                                             |                                                                                                                      |                                                                                                            | 195                                                                                                                                                               |
| PHILIPPINE HARDWOODS*                                        |                                                                  |                                                           |                                                                                                                                    |                                                                                                |                                                                                                |                                                                                                                      |                                                                                                            |                                                                                                                                                                   |
| RED LAUAN<br><i>Shorea negrosensis</i>                       | .40                                                              | 36                                                        | 86                                                                                                                                 | 138                                                                                            | 55                                                                                             | 110                                                                                                                  | 82                                                                                                         | 117                                                                                                                                                               |
| WHITE LAUAN<br><i>Pentacme contorta</i>                      |                                                                  | 36                                                        | 75                                                                                                                                 | 138                                                                                            | 53                                                                                             | 114                                                                                                                  | 74                                                                                                         | 103                                                                                                                                                               |
| TANGUILE<br><i>Shorea polysperma</i>                         | .53                                                              | 39                                                        | 91                                                                                                                                 | 154                                                                                            | 64                                                                                             | 87                                                                                                                   | 87                                                                                                         | 133                                                                                                                                                               |
| POPLAR, YELLOW (TULIPTREE)<br><i>Liriodendron tulipifera</i> | .38                                                              | 28                                                        | 68                                                                                                                                 | 135                                                                                            | 40                                                                                             | 58                                                                                                                   | 71                                                                                                         | 119                                                                                                                                                               |
| PRIMAVERA*<br><i>Cydistax donnell-smithii</i>                | .40                                                              | 30                                                        | 102                                                                                                                                | 123                                                                                            | 74                                                                                             | 94                                                                                                                   | 106                                                                                                        | 91                                                                                                                                                                |
| ROSEWOOD (BRAZIL)*<br><i>Dalbergia nigra</i>                 |                                                                  | 50                                                        |                                                                                                                                    |                                                                                                | 153                                                                                            |                                                                                                                      |                                                                                                            | 119                                                                                                                                                               |
| SAPELE*<br><i>Entandrophragma cylindricum</i>                | .54                                                              | 40                                                        | 137                                                                                                                                | 126                                                                                            | 123                                                                                            | 94                                                                                                                   | 96                                                                                                         | 138                                                                                                                                                               |
| SATINWOOD (EAST INDIAN)*<br><i>Chloroxylon swietenio</i>     | .83                                                              | 67                                                        | 166                                                                                                                                | 181                                                                                            | 209                                                                                            | 132                                                                                                                  | 141                                                                                                        | 147                                                                                                                                                               |
| SONORA (MANGGASINORO)*<br><i>Shorea philippinensis</i>       | .42                                                              | 31                                                        | 62                                                                                                                                 | 116                                                                                            | 50                                                                                             | 88                                                                                                                   | 61                                                                                                         |                                                                                                                                                                   |
| SYCAMORE<br><i>Platanus occidentalis</i>                     | .46                                                              | 35                                                        | 76                                                                                                                                 | 129                                                                                            | 64                                                                                             | 78                                                                                                                   | 74                                                                                                         | 136                                                                                                                                                               |
| TEAK*<br><i>Tectona grandis</i>                              | .60                                                              | 43                                                        | 136                                                                                                                                | 173                                                                                            | 99                                                                                             | 107                                                                                                                  | 124                                                                                                        | 162                                                                                                                                                               |
| TIGERWOOD*<br><i>Lavoa klaineana</i>                         | .45                                                              | 34                                                        | 101                                                                                                                                | 123                                                                                            | 78                                                                                             | 93                                                                                                                   | 90                                                                                                         | 138                                                                                                                                                               |
| WALNUT (Black), AMERICAN<br><i>Juglans nigra</i>             | .51                                                              | 39                                                        | 113                                                                                                                                | 167                                                                                            | 88                                                                                             | 124                                                                                                                  | 111                                                                                                        | 116                                                                                                                                                               |
| WILLOW, BLACK<br><i>Salix nigra</i>                          | .34                                                              | 26                                                        | 41                                                                                                                                 | 70                                                                                             | 35                                                                                             | 91                                                                                                                   | 45                                                                                                         | 126                                                                                                                                                               |
| ZEBRAWOOD*<br><i>Microberlinia brazzavillensis</i>           | .62                                                              | 48                                                        |                                                                                                                                    |                                                                                                | 125                                                                                            |                                                                                                                      |                                                                                                            | 156                                                                                                                                                               |

The data for native species as furnished on these three pages of charts are from the U.S. Forest Products Laboratory, Technical Bulletin 158 titled, "Comparative Strength Properties of Woods Grown in the United States". In the case of those woods marked with an asterisk (\*) the tests were less extensive. About some of the terms: **STRENGTH** — The quantities are applicable to short columns having a ratio of length to least dimension of 11 (or less) to 1. The lower quantities indicate a larger cross-section might be needed for comparative strength. **STIFFNESS** — A measure of the resistance to deflection and relates particularly to beams. The higher the values the less the deflection. **HARDNESS** — the property which makes the surface difficult to dent or scratch. The greater the value the greater the hardness of the wood. **SHOCK RESISTING ABILITY** — the capacity to withstand suddenly applied loads. The greater the value the greater of shock resistance of the species. **BENDING STRENGTH** — a measure of the load carrying capacity of beams usually horizontal resting on two supports. The higher the number the higher the ranking. **SHRINKAGE** — usually occurs across the grain. A low rating in this property is desirable.



# There is nothing “just as good” as genuine hardwood!

No two pieces of genuine hardwood furniture are ever exactly alike. Each tree yields lumber and veneer with its own individual grain patterns and character markings. These “fingerprints of nature” are the badges of the genuine which separate the real wood products from the imitations.

The public has a right to know exactly what is being purchased. How can one tell? Sometimes by sight, by studying the grain patterns, looking for printed repeat patterns of imitations. Occasionally by feel, testing whether or not the item has the uniformly pleasant temperature of real wood when touched. Another way to identify imitations is by their non-wood sound when tapped lightly with a metal object such as a pen, ring, etc.

A means of identification such as labels or hang tags, is required by the Federal Trade Commission. Manufacturers of case goods and wall paneling must clearly identify the materials used in the construction.

The Fine Hardwoods/American Walnut Association’s Seal of Certification (right) identifies the genuine hardwood products of some of the nation’s foremost manufacturers. This seal attests to the authenticity of the hardwood surfaces of any piece on which it appears. This tag merely supplements various tags already in use and re-emphasizes to the consumer the integrity of the hardwood used.

The Seal of Certification and other helpful labels are available for qualifying manufacturers from the Fine Hardwoods/American Walnut Association.



“THE MASTER’S TOUCH”



“READ THE LABEL”



# Man's artistry with wood begins with the manufacturing . . .

## HARDWOOD LUMBER

By the year 1900 the lumber industry had moved from the East coast through the Lake States, Midwest, and South, into the Pacific Northwest. With this shift in location came a shift in lumber emphasis for structural uses from hardwoods to softwoods. From that time forward the hardwood trees were used primarily in the manufacture of furniture, flooring, handles, gunstocks, and other specific items where maximum use of the special qualities inherent in a particular species could be used to better advantage. Certain species were selected for use because of their strength, beauty, bending properties, shock resistance or other physical properties. Woods are still selected for the same reasons.

Hardwood lumber made from both domestic and foreign species is customarily purchased directly from sawmills, or from distribution yards, in large packages containing specified grades of lumber of a given thick-

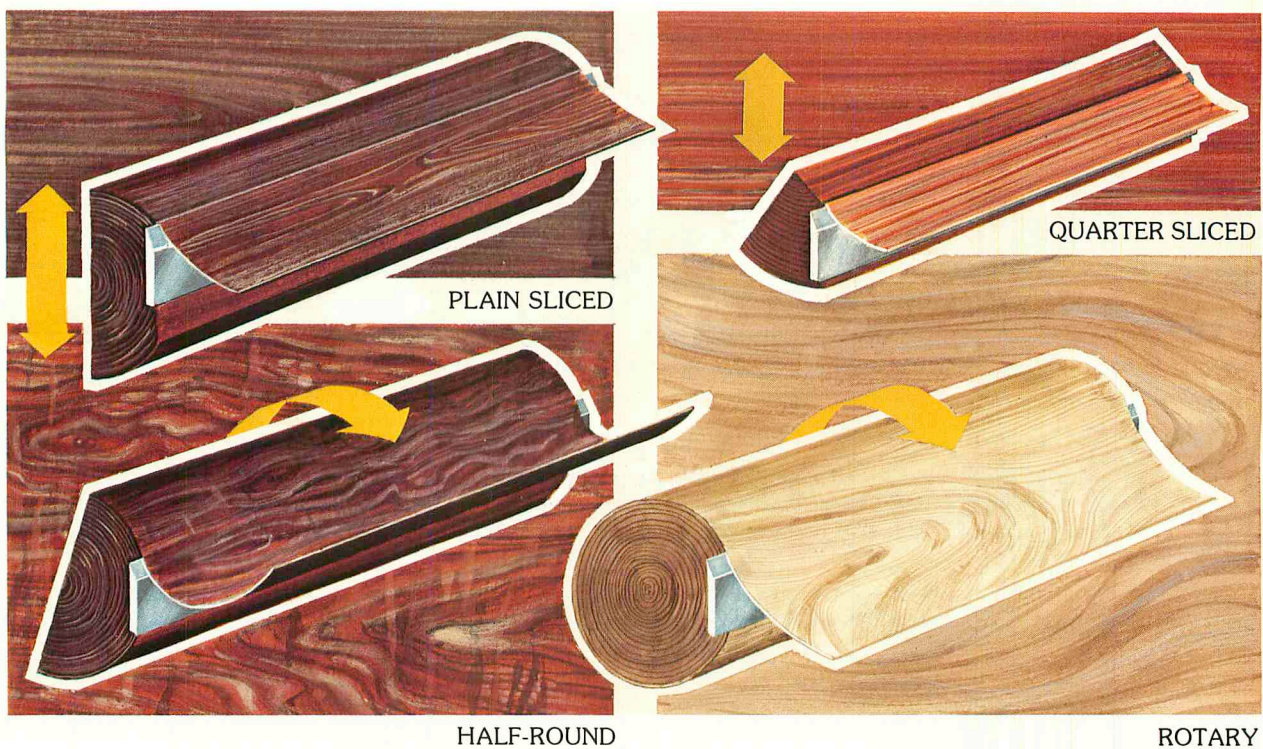
ness and a known percentage of random widths and lengths. There are also lumber retail stores catering to the "Do it Yourself" home workshop.

The colonists were quick to recognize that North American hardwoods could be cut into elegant moldings for use in their architecture. Hardwoods are easy to cut with molding tools, they bend well, finish well, shrink very little once dried, and can be used for both interior and exterior purposes. The hardness features and strength perspective of oak, hickory, ash, mahogany, cherry and walnut make them particularly attractive for furniture, flooring, interior trim and wood turnings, which were probably developed in Egypt many centuries ago.

The modern, automatic saw mills of today turn out enormous quantities of precision manufactured hardwood lumber in the United States and in other fine timber growing areas of the world.







## HARDWOOD VENEER AND PLYWOOD

The designer is as sensitive to his material as any sculptor or painter. Full expression of his design depends on the species of wood selected.

According to some authorities the Romans are credited with having developed the technique of matching veneers to produce unusual decorative effects as well as beautiful patterns expressing the warmth and charm of the wood grains.

The art of veneering is nearly as old as civilization itself. Exquisitely designed and skillfully crafted pieces of furniture with exotic veneer inlays and plywood components found in the tombs of Pharaohs are testimony to the lasting value of one of nature's most reliable natural resources — hardwood.

Veneer is a thin layer of wood of uniform thickness produced by peeling, slicing, or sawing logs, bolts, or flitches.

Certain species, selected for strength rather than beauty, are generally used for inner layers of hardwood plywood. They are often rotary cut. The veneer is peeled off the log in continuous sheets as wide as the length of the log.

For the production of face veneer, logs are selected according to size, figure, color and natural character marks.

As the first step in the production process, the bark is removed by a special machine called a debarker. Then the log is cut in halves or quarters, lengthwise in a modern sawmill. The resulting sections are

called flitches, which must be cooked in vats for periods varying from one to eight days before they are cut into veneer.

Cutting, the central operation in a veneer factory, takes place on a vertical slicer or on a half round rotary, depending on the species and the special grain character desired. Both systems produce veneer sheets collected in consecutive order no wider than the diameter of the log.

Face veneers are manufactured in many thicknesses depending upon the end use and customer's requirements. They are normally available from 1/16" to 1/100" (1.6 mm to .25 mm). Modern technology in veneer slicing and usage has enabled furniture and panel manufacturers to use successfully thinner and thinner veneers, thereby helping conservation of hardwoods.

After cutting and curing to obtain the desired color, the veneers are dried, sampled and packaged for storage or shipment.

Veneers are usually sold by samples in the United States. The buyer looks at representative sheets from many flitches. He then makes his selection according to his individual needs taking into consideration figure type, color, price and yield.

Constant research is going on to improve veneer manufacturing processes, adhesives, sanding methods and wood finishes. Wood technologists, engineers, chemists and designers are working to improve an already superior product, hardwood Plywood.



# Procedures and Definitions

Woods are listed alphabetically by their most generally accepted common name. Where more than one common or commercial name exists, the description is found under the most accepted common name.

Availability is expressed in the following terms:

- (a) **Rare** — Available from one or more firms, but in possibly very limited amounts and often limited sizes.
- (b) **Limited** — Available from several firms with medium quantities in stock. Amounts and sizes not likely to be a serious problem.
- (c) **Readily Available** — Adequate supplies available for quick shipment from many firms. Sizes and amounts no problem.

Cost is expressed in the following terms:

- (a) **Valuable** — Associated with availability and difficulty of manufacturing and handling. Cost expected to be much above average for veneer and lumber of comparable sizes, thickness, and quantities. Often common for architectural grades.
- (b) **Average** — Common for routine order and specifications.
- (c) **Inexpensive** — The species in this category are presently abundant or not in great demand.

The terms used for availability are **Rare**, **Limited**, and **Readily Available**, however, these terms as they apply to the various species were true at the time this book was printed. These classifications could change at some later time due to improvement in transportation from inaccessible regions. It is also possible that many species could be more readily available if the demand should increase to justify production in larger quantities.

Practically all the photos in this book are to scale. The piece of wood pictured is usually sixteen to twenty-one inches long and seven to twelve inches wide. The wood has been moistened in order to accent the grain, thus giving a somewhat "finished" appearance.

## Selection guide to a world of fine hardwoods . . .

**ABACHI** (*Triplochiton scleroxylon*)  
See Ayous

**ABOUDIKROU** (*Entandrophragma* spp.)  
See Sapele

**ACACIA** (*Acacia* spp.)  
Acacia is one of the most abundant species of wood growing in many parts of the world including America, Europe, India, and Africa. In the United States, in the form of *Acacia koa* in Hawaii and locust (*Robinia pseudoacacia*) on the mainland. For *Acacia koa*, see **KOA**. *Color*: Locust, greenish-brown heartwood. *Availability*: Rare as veneer. *Price Range*: Valuable.

**"ACACIA" BURL** (*Umbellularia californica*)  
See Myrtle Burl

**ACAPU** (*Vouacapoua americana*)  
Brownheart, Partridge Wood  
*Source*: Brazil and northern Central America. *Color*: Uniform cream sapwood; heartwood dark chocolate brown with lighter brown striping. Low lustre. *Pattern*: Grain straight to slightly roey; texture coarse. *Characteristics*: Hard and heavy. *Uses*: Boat building, flooring, furniture, veneer and plywood. *Availability*: Rare. *Price Range*: Valuable.

**AFARA** (*Terminalia superba*)  
See Limba

**AFRORMOSIA** (*Pericopsis elata*)  
Kokrodua  
*Source*: West Africa. *Color*: Yellow to warm brown. *Pattern*: From straight grain to some mottle; resembles teak. *Uses*: Wall paneling; furniture; decks. *Availability*: Limited as veneer; limited as lumber. *Price Range*: Valuable.

**AKO** (*Antiaris africana*)  
See Chen Chen

**AKUME** (*Guibourtia demeusii*)  
See Bubinga

**ALBARCO** (*Cariniana*, spp.)  
Abarco, Bacu, Jequitiba, and incorrectly, Brazilian or Columbian "Mahogany"  
*Source*: South America (Brazil and Columbia). *Color*: Light brown sapwood; yellowish to pinkish or reddish-brown heartwood. *Pattern*: Grain straight or striped. *Characteristics*: Close, dense texture; moderately heavy; very hard; difficult to saw. *Uses*: Furniture; interior construction. *Availability*: Rare as veneer (quarter sliced). *Price Range*: Average.

**ALDER, RED** (*Alnus rubra*)  
Alder, Western Alder  
*Source*: Pacific Coast (California and north). *Color*: Pale pinkish-brown to almost white. *Pattern*: Not distinct. *Characteristics*: Good working properties; strength between Red Gum and Yellowpoplar. *Uses*: Unexposed structural parts for furniture; core stock. *Availability*: Rare as veneer; readily available as lumber. *Price Range*: Inexpensive.

**ALMON** (*Shorea almon*)  
Often sold with or as White Lauan  
*Source*: Philippine Islands. *Color*: Light cream or straw. *Pattern*: Quartered or rotary figure. *Characteristics*: Light; works well although stringy; finishes well; coarse textured; cross grained; moderately hard. *Availability*: Readily available as veneer (quarter sliced and half-round cut); readily available as lumber. *Price Range*: Inexpensive.

**ALPINE BURL** (*Betula alba*)  
See Birch, European



**AMARANTH** (*Peltogyne spp.*)

Amarante, Ameranth, Bois Violet, Morado, Palo Morado, Nazareno, Purpleheart, Violetwood

*Source:* Mexico, Central and South America, especially Brazil, and British, French and Dutch Guiana. *Color:* Dull brown heartwood turns deep, true purple immediately after cutting; sapwood is light grey with purple streaks. *Pattern:* Mild stripe with mild mottle. *Characteristics:* Even texture; hard and heavy; works excellently. *Uses:* Veneer as overlays and inlays; lumber as art objects; jewelry and silverware handles, etc. *Availability:* Readily available as veneer (quarter sliced); limited as lumber. *Price Range:* Valuable.

**AMAZAQUE** (*Guibourtia ehie*)

Mozambique, Ovenkol, Ovangkol, Kolima, Anokhe, Amazakoue, Hyeduanini (See Photo 100)

*Source:* West Africa. *Color:* Golden brown. *Pattern:* Plain and contrasty grain. Many logs are figured. *Uses:* Veneer for furniture, plywood and architectural installations. Lumber for furniture and flooring. *Availability:* Readily available, both plain and quarter sliced. *Price Range:* Average.

**AMAZOUE** (*Guibourtia ehie*)

See Amazaque

**AMBOYNA BURL** (*Pterocarpus indicus*)

Kiabooca. Also see Narra

*Source:* Borneo, The Moluccas (East Indies). *Color:* Rich



100 — AMAZAQUE (Plain Sliced)

brown variegated yellow to red, changes to brown. *Pattern:* Burl — with varied twisted curls and knots. *Availability:* Rare as veneer (half-round). *Price Range:* Valuable.

**ANDIROBA** (*Carapa guianensis*)

Carapa, Cedro Macho, Crabwood, Demerara, Tangare

*Source:* Northern South America. *Color:* Reddish-brown. *Pattern:* Stripe when quartered; has fine parallel, irregular rays. *Characteristics:* Medium-low density, but firm, strong and hard-textured; grain generally straight, sometimes roey; takes paint and glue well; coarse-textured. *Uses:* Furniture and other cabinetmaking. *Availability:* Rare as veneer (quarter sliced). *Price Range:* Average.

**ANGELIQUE** (*Dicorynia paraensis*)

Basra Locus

*Source:* French Guiana. *Color:* Brown to purplish-brown. *Pattern:* Solid and streaked. *Characteristics:* Hard; heavy and strong; usually straight grain; texture medium; finishes smoothly. *Uses:* Furniture. *Availability:* Not commonly produced but could be cut in volume. *Price Range:* Valuable.

**ANIGRE** (*Aningeria spp.*)

See Aningeria

**ANINGERIA** (*Aningeria spp.*)

Anegera, Anigre, Anigeria, Landosan, Mukali, Kali, Mukangie, Muna, Osan, sometimes misleadingly called Tanzanian walnut.

*Source:* Africa. *Color:* Heartwood—yellowish-white to pale brown, sometimes with a pinkish tint. *Pattern:* Lustrous but fairly plain in appearance and fine and even in texture; usually straight grained but occasionally a wavy grain. *Characteristics:* The siliceous content, though very small, is enough to make it abrasive to cutting tools; generally has a fine uniform texture. *Uses:* Veneer. *Availability:* Readily available with increased demand. *Price Range:* Average.

**APITONG** (*Dipterocarpus grandiflorus*)

Selected lumber sold under "Bagac" trade name; sometimes sold as a "Philippine Mahogany"

*Source:* Philippine Islands. *Color:* Light to dark reddish-brown. *Pattern:* Grain slightly crossed; quartered "ribbon" often absent or wide apart. *Characteristics:* Moderate to coarse texture; dull; hard and comparatively heavy; works and finishes well; good gluing and finishing qualities. *Uses:* Heavy duty lumber. *Availability:* Readily available mainly as lumber. *Price Range:* Average.

**APPLE** (*Malus spp.*)

*Source:* Europe, Asia, United States. *Color:* Light red sapwood and reddish-brown heartwood. *Pattern:* Very little grain pattern. *Characteristics:* Close, even-grained. *Uses:* Fancy turnery and inlay work; as veneer in some European furniture; as lumber in saw handles. *Availability:* Rare as veneer (half-round); rare as lumber. *Price Range:* Average.

**ARACA** (*Terminalia januarensis*)

*Source:* Brazil. *Color:* Yellow-brown to olive-brown cast with straight, darker brown ribbon stripes. *Pattern:* Usually quartered striped. *Characteristics:* Hard and heavy. *Availability:* Rare as veneer; rare as lumber. *Price Range:* Average.



### ASH, AMERICAN

There are several American species of ash, but only a few are commercially important. Listed in Alphabetical order they are:

#### 1. BLACK ASH (*Fraxinus nigra*)

Hoop Ash, Swamp Ash

*Source:* Southern Canada, from Minnesota and Iowa east to the coast, south to northern Tennessee. *Color:* Dull brown to greyish-brown heartwood, with narrow whitish to light brown sapwood. *Pattern:* Straight grain with clusters of eyes, occasionally scattered. *Characteristics:* Medium heavy; medium hard; moderately strong; moderately stiff; shock resistant; excellent bending quality; average in workability. *Uses:* Primarily as lumber. *Availability:* Limited as veneer. *Price Range:* Average.

#### 2. BROWN ASH (*Fraxinus nigra*)

Refers to Black Ash trees grown in certain locations of Michigan, Wisconsin and Minnesota. These special quality trees are recognized and sold separately as Brown Ash. *Color:* Warm brown heartwood with narrow light brown sapwood. *Pattern:* Straight grain with clusters of eyes, occasionally scattered. *Characteristics:*

Same as Black Ash. Both Black Ash and Brown Ash considered softer and weaker than White Ash. *Uses:* Primarily as veneer. *Availability:* Limited as veneer. *Price Range:* Average.

#### 3. GREEN ASH (*Fraxinus pennsylvanica*)

*Source:* Widely distributed throughout Great Plains, eastern United States and southern Canada. Lumber and veneer not distinguished from White Ash in the trade. See White Ash for characteristics.

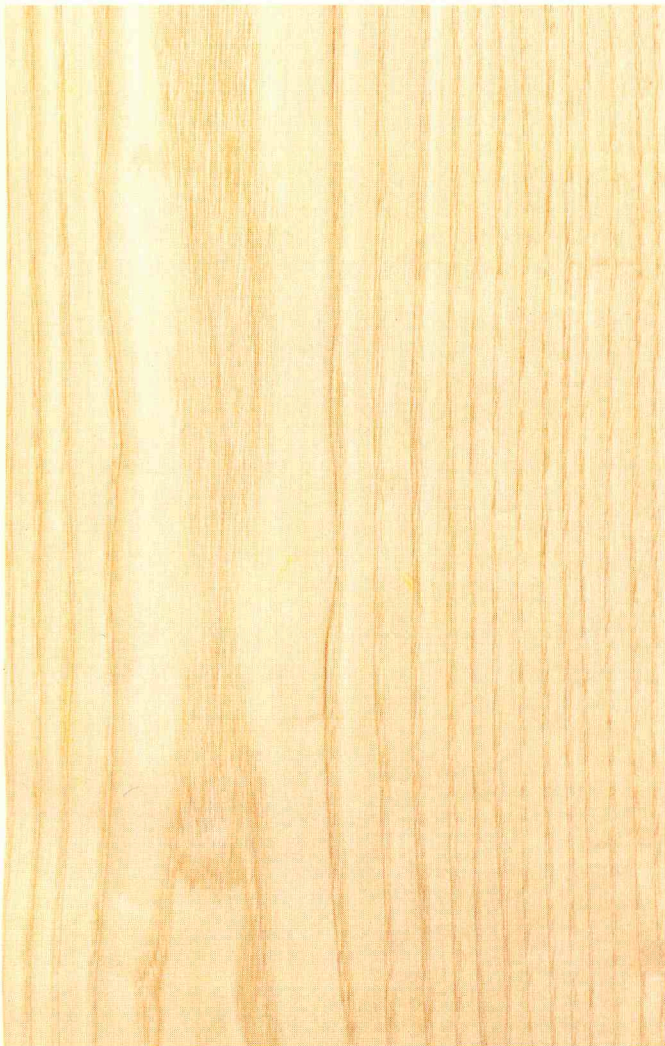
#### 4. OREGON ASH (*Fraxinus latifolia*)

*Source:* Along Pacific Coast. Oregon Ash has somewhat lower strength properties than White Ash but it is used locally for the same purposes.

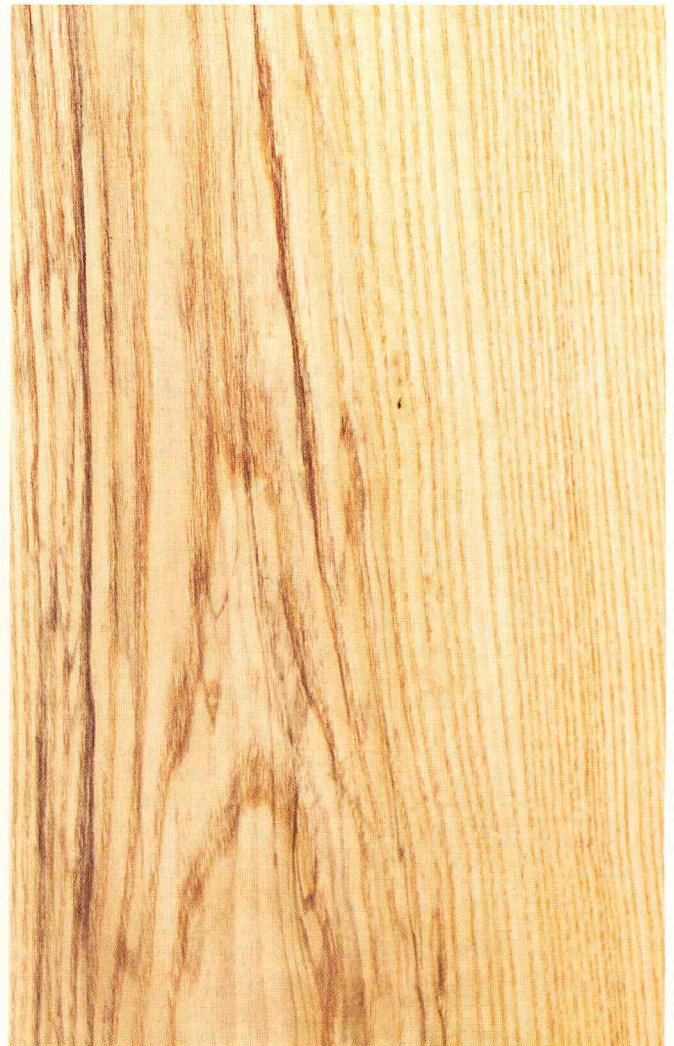
#### 5. WHITE ASH (*Fraxinus americana*)

(See Photo 101, 102)

*Source:* Eastern United States—principally Lake States, New England, Central States. *Color:* Somewhat lustrous; cream to very light brown heartwood with wide lighter colored sapwood. *Pattern:* Straight moderately open-grain. *Characteristics:* Heavy; hard; strong; stiff; high in shock resistance with excellent bending qualities and above average workability. *Uses:* Interiors; furniture; han-



101 — ASH, WHITE (*White Heart*)



102 — ASH, WHITE (*Brown Heart*)



dles of tools and implements; sporting and athletic goods. *Availability:* Readily available as veneer (quarter sliced, half-round), (figured sliced); readily available as lumber. *Price Range:* Average.

**ASH, EUROPEAN** (*Fraxinus excelsior*)

Olive Ash, English, French, Belgium, etc., according to origin.

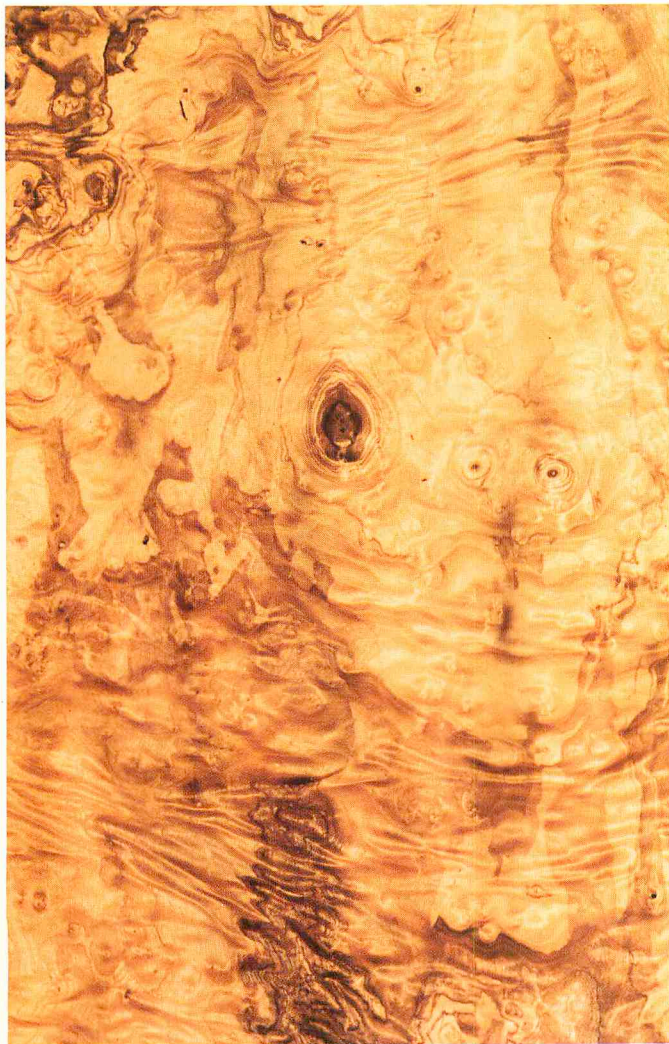
*Source:* England, France, Turkey, Hungary. *Color:* Greyish-white color, except for Hungarian Ash which is brownish-white to white. Olivewood—grain quite wavy and distinct, sometimes with black streaks and dark grain. *Characteristics:* Moderate weight and hardness; even grain; tough; flexible; easily worked. *Availability:* Limited as veneer. *Price Range:* Valuable.

**ASH, OLIVE BURL**

White and brown open and burly patterns of European Ash used as inlays on fine furniture. *Availability:* Readily available as veneer. *Price Range:* Valuable. (See Photo 103)

**ASH, JAPANESE** (*Fraxinus sieboldiana*)

Tamo, Damo (See Photo 104)



103 — ASH, OLIVE (Burl — Half-Round)

*Source:* Japan. *Color:* Brownish-tan through grey to almost white. *Pattern:* Plain to highly varied with swirls, fiddleback mottle and a “peanut shell” figure. Extreme grain character. *Characteristics:* Bends easily; lighter weight than European and American Ash; glues well; finishes well; strong for its weight. *Uses:* Decorative interiors and furniture; inlays and overlays. *Availability:* Rare as veneer. *Price Range:* Valuable.

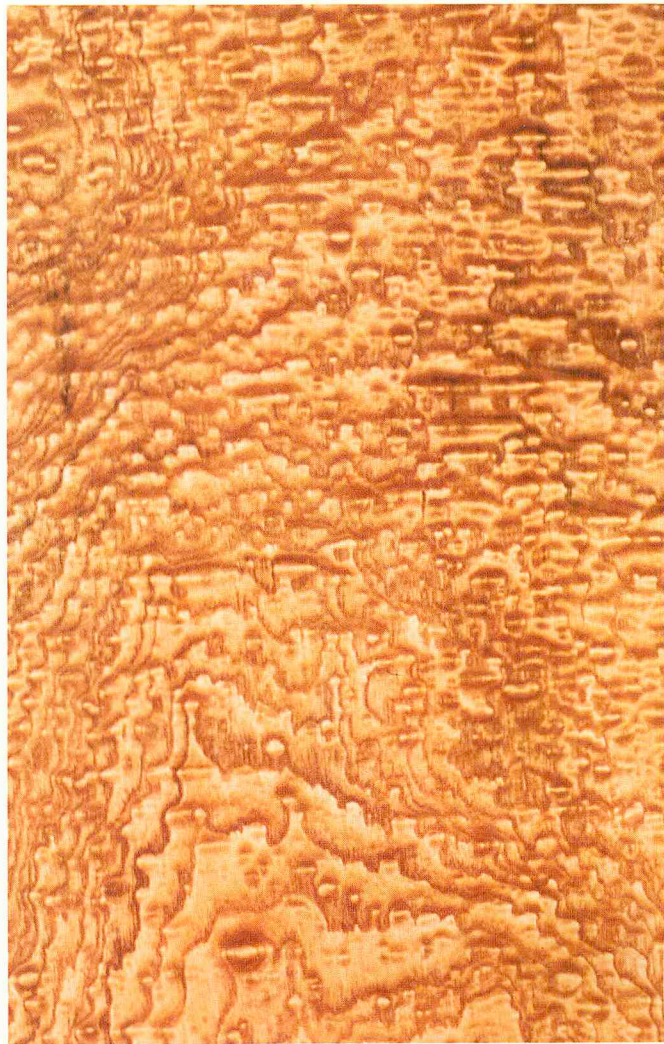
**ASPEN** (*Populus alba*)

White European Poplar, English Poplar, Silver Poplar

*Source:* Europe and Western Asia; transplanted to United States, principally in Middle Atlantic States. *Color:* Pure white to whitish-yellow or grey sapwood similar to Rock Maple with light tan, sometimes brown-streaked, heartwood. *Pattern:* Most widely known for its crotches and swirls. *Characteristics:* Soft; light; easy to work; close-grained; tough texture; natural sheen; tools very smoothly. *Uses:* Furniture; interiors; inlays. *Availability:* Rare as veneer (quarter sliced, half-round). Principally produced as crotches. *Price Range:* Valuable.

**ASPEN, NORTHERN** (*Populus tremuloides*, *Populus grandidentata*)

See Popple



104 — ASH, JAPANESE — TAMO (Half-Round)



## Selection guide to a world of fine hardwoods . . .

### **AVODIRE** (*Turraeanthus africanus*)

Apaya (See Photo 105)

**Source:** West Africa. **Color:** White to creamy gold. **Pattern:** Largely figured with a mottle; crotches and swirls. **Characteristics:** Medium texture; firm, clean grain; usually wavy or irregularly interlocked; lustrous; moderately hard; weighs about the same as African Mahogany. **Uses:** Fixtures; furniture; architectural panels. **Availability:** Limited as veneer (quarter sliced). **Price Range:** Valuable.

### **AYOUS** (*Triplochiton scleroxylon*)

Abachi, African Whitewood, Ewowo, Obeche, Samba, Arere, Wawa

**Source:** West Africa. **Color:** Creamy white to pale yellow. **Pattern:** Faintly striped when quartered. **Characteristics:** Fairly soft; light weight; firm; medium grain, and even in texture. **Availability:** Limited as veneer. **Price Range:** Inexpensive.

### **BAKU** (*Tieghemella heckelii*)

See Makore

### **BALSA** (*Ochroma lagopus*)

**Source:** Ecuador, Southern Mexico and Central America. **Color:** Pale white to pinkish white. **Pattern:** Very little, although pores noticeable. **Characteristics:** The lightest

of our commercial hardwoods (6 to 9 lbs. cu. ft.); very soft. **Uses:** As veneer—for model airplanes, toys, etc.; as lumber—largely as insulation, floats and life preservers. **Availability:** Readily available.

### **BASSWOOD** (*Tilia americana*)

Linden, American Whitewood, American Lime

**Source:** Northern United States and Canada. Called Linden in Europe. **Color:** Creamy white. **Pattern:** Fine grain; little or no grain character. **Characteristics:** Very light; fairly soft; glues well. **Uses:** Largely as core stock and cross-banding. **Availability:** Readily available.

### **BAY POPLAR** (*Nyssa aquatica*)

See Gum, Tupelo

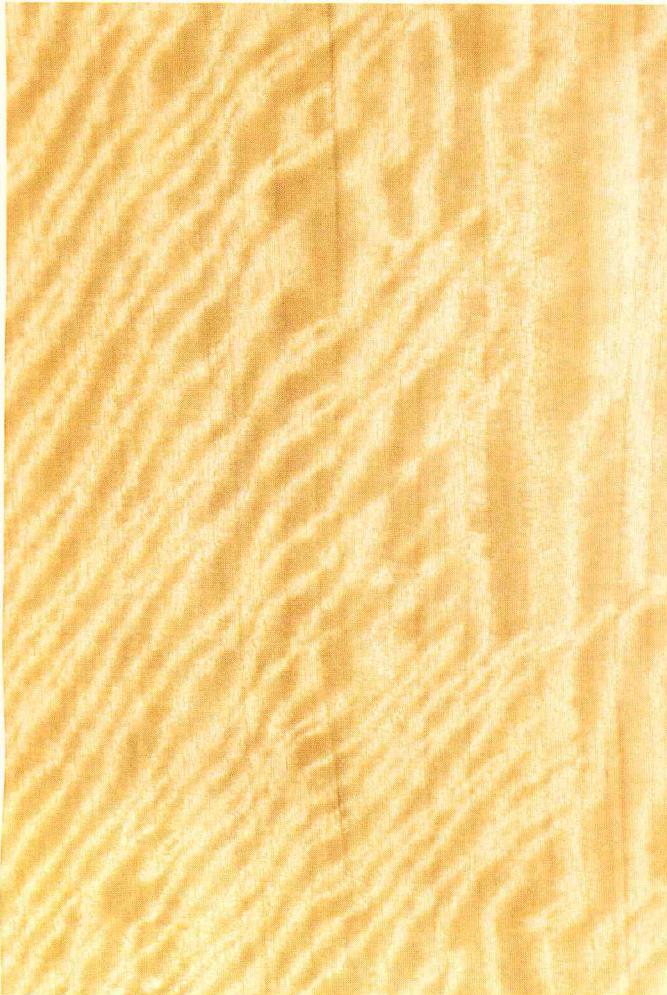
### **BEANWOOD** (*Castanaspermum australe*)

See Black Bean, Australian

### **BEECH, AMERICAN** (*Fagus grandifolia*)

Sweet Beech (See Photo 106)

**Source:** United States—Lake States and Appalachian region. **Color:** Reddish-brown heartwood; thin white sapwood. **Pattern:** Straight grain. **Characteristics:** Hard; strong; stiff; very close-grained. **Uses:** Lumber—flooring; chairs; shoe lasts; tool handles. **Availability:** Readily available as



105 — AVODIRE (Quarter Sliced — Figured)



106 — BEECH, AMERICAN (Plain Sliced)



veneer (quarter sliced, half-round), readily available as lumber. *Price Range:* Inexpensive.

**BEECH, EUROPEAN** (*Fagus sylvatica*)

Similar in appearance to American.

*Source:* Largely from Europe. However, this species is found in many parts of the world, for example, Norway to Spain and in Asia Minor.

**BEEFWOOD** (*Manilkara bidentata*)

See Bulletwood

**BELLA ROSA** (*Anisoptera thurifera*)

Bayott, Duali, Palosapis

*Source:* Philippine Islands. *Color:* Pink to yellowish-buff. *Pattern:* Stripe and mottle. *Characteristics:* Moderately hard and heavy; coarse texture; grain generally straight, sometimes crossed or wavy. *Availability:* Rare as veneer (quarter sliced); readily available as lumber. *Price Range:* Valuable. Not commonly produced but could be cut in volume.

**BENGE** (*Guibourtia ehie*)

See Amazaque

**BIRCH, AMERICAN AND CANADIAN**

The two commercial species are:

**1. BIRCH, SWEET** (*Betula lenta*)

Black Birch, Cherry Birch

*Source:* Mainly produced in Adirondack and the eastern Appalachian areas, although it occurs as far south as northern part of Gulf States. *Color:* Brown tinged with red, with thin, light brown or yellow sapwood. *Pattern:* Mostly rotary as well as sliced; grain distinct but not prominent. *Characteristics:* Heavy; very strong and hard; close-grained. *Uses:* All cabinetwork where strength and hardness is desired. *Availability:* Readily available as both veneer and lumber. *Price Range:* Average.

**2. BIRCH, YELLOW** (*Betula alleghaniensis*, formerly *Betula lutea*)

*Source:* Canada and the Lake States and New England to North Carolina in the United States. *Color:* Cream or light brown tinged with red, with thin, nearly white sapwood. *Pattern:* Both rotary and sliced, plain and often curly or wavy. *Characteristics:* Heavy; very strong; hard; closed-grained; even texture. *Uses:* Furniture; interiors; interior and exterior doors; store fixtures; accessories, etc. *Availability:* Readily available as veneer and lumber. As veneer the sapwood of rotary birch is sold as "selected white" and the heartwood as "selected red." The greater volume produced is "natural birch" and contains a normal combination of color tones. (See Photos 107, 108)



107 — BIRCH (Plain Sliced)



108 — BIRCH (Rotary — Character Marked)



## Selection guide to a world of fine hardwoods . . .

### **BIRCH, EUROPEAN** (*Betula alba*)

Alpine, Finnish, Norway Birch, etc., according to origin.

**Source:** Norway, Sweden, Finland. **Color:** Tan and cream to off-white. **Pattern:** Rotary-cut; occasionally figured (fiddle-back and curly); usually with many small, dark, burl-like markings. **Characteristics:** A distinctive, fine-grained, textured wood. **Availability:** Rare. **Price Range:** Valuable.

### **BIRCH, NORWAY BURL** (*Betula alba*)

(Alpine Burl)

Burl patterns manufactured from various European birch species. See Birch, European

### **BLACK BEAN, AUSTRALIAN** (*Castanospermum australe*)

Beanwood

**Source:** Australia. **Color:** Brown deepening nearly to black with streaks of lighter shades; a blending of chestnut and teak. **Pattern:** Streaked; often highly figured. **Characteristics:** Coarse-textured; resistant to decay; fairly hard and heavy; medium density; moderately strong and stiff; takes a good polish; works well; high insulating value. **Availability:** Rare as veneer (quarter sliced). **Price Range:** Valuable.

### **BLACKWOOD, AFRICAN** (*Dalbergia melanoxylon*)

Mozambique "Ebony"

**Source:** Africa—east coast. **Color:** Purplish to plum-black. **Characteristics:** Close-grained. **Availability:** Rare. **Price Range:** Average.

### **BLACKWOOD, TASMANIAN** (*Acacia melanoxylon*)

Australian Blackwood, Blackwood Acacia

**Source:** Australia and Tasmania. **Color:** Lustrous, deep, rich, reddish-brown; golden brown; varicolored. **Pattern:** Straight-grained, sometimes interlocked, often showing figure and mottle. **Characteristics:** Close-grained but with conspicuous pores; polishes easily; light to moderately heavy; soft and easily worked; bends exceptionally well. In fact, one of the finest cabinetwoods from Australia and Tasmania. **Availability:** Rare as veneer and lumber. **Price Range:** Valuable.

### **BOCOTE** (*Cordia spp.*) See "Rosewood," Mayan

### **BOIRE** (*Detarium Senegalese*)

Bodo, Bowiwasi, Mambode

**Source:** Ivory Coast, Nigeria, Liberia, Guinee Bissao. **Color:** Brown to reddish-brown with contrasty grain. **Pattern:** Wild and contrasty. **Characteristics:** Looks like contrasty Persian Walnut. **Uses:** Fine face veneer for furniture and architectural use. **Availability:** Available in larger quantities if demand would justify. **Price Range:** Average.

### **BOSSÉ** (*Guarea cedrata*, *Guarea thompsoni*)

Africa "Cedar," "Cedar Mahogany," Cedron, Obobo

**Source:** Gold Coast, Nigeria and Ivory Coast. **Color:** Pink to a light mahogany color. **Pattern:** Stripe and mottle, fine-grained. **Characteristics:** When cutting, a strong cedar-like scent results. **Availability:** Rare as veneer (quarter sliced). **Price Range:** Average.

### **BOXELDER** (*Acer negundo*)

Ash-leaf Maple

**Source:** Rocky Mountain States into Eastern United States and Canada. **Color:** Heartwood, unattractive yellowish-bronze, merging rather gradually into the greenish-yellow sapwood; sometimes coral-red streaks due to presence of soluble pigment. **Pattern:** Close-grained. **Characteristics:** Light, soft and not strong. **Availability:** Rare. **Price Range:** Inexpensive.

### **BOXWOOD, EUROPEAN** (*Buxus sempervirens*)

Box; Indian, Iranian, Persian, etc., according to origin.

**Source:** Europe and Asia; grown ornamentally in the United States. **Color:** Whitish-yellow. **Pattern:** Very indistinct. **Characteristics:** Hard with close grain. Small sizes only are available. **Uses:** Fine rulers and inlays. **Availability:** Rare. **Price Range:** Valuable.

### **BOXWOOD, WEST INDIAN** (*Gossypiospermum praecox*)

Maracaibo Boxwood, Zapatero, Batoa

**Source:** West Indies, Venezuela, Columbia. **Color:** Yellowish-white and rather bright. **Pattern:** Fine, close and parallel medullary rays, but wavy and ribbed. **Characteristics:** Close, firm and smooth grain. **Uses:** Inlay work, banding in cabinets, marquetry, handles, mathematical instruments. **Availability:** Rare. **Price Range:** Valuable.

### **BUBINGA** (*Guibourtia demeusii*)

African "Rosewood" (misleading), Akume, Kewazinga, Kevazingo (See Photo 109)



109 — BUBINGA (Quarter Sliced — Figured)



**Source:** West Africa. **Color:** Red with streaks or lines of dark purple. **Pattern:** Stripe and heavy, with conspicuous pores. **Uses:** General cabinetry. **Availability:** Limited as veneer; readily available as lumber. **Price Range:** Valuable.

**BUCKEYE, OHIO** (*Aesculus glabra*)

Similar to Yellow Buckeye but smaller in size. See Yellow Buckeye for lumber and veneer characteristics.

**BUCKEYE, YELLOW** (*Aesculus octandra*)

Sweet Buckeye, Large Buckeye

**Source:** Eastern United States. **Color:** Heartwood, creamy to yellowish-white; sapwood is white. **Pattern:** Often blemished by dark lines (stain). **Characteristics:** Soft; close, straight-grained; not strong. **Availability:** Rare as veneer; readily available as lumber. **Price Range:** Inexpensive.

**BULLETWOOD** (*Manilkara bidentata*)

Balata, Beefwood, Red Lancewood, South American  
"Mahogany" (misleading), Wild Dilly

**Source:** Brazil, Guianas, and Venezuela. **Color:** Reddish-brown with purple cast. **Pattern:** Numerous light-colored concentric lines, like the similar but finer invisible rays; straight grain. **Characteristics:** Hard; heavy; and one of the strongest woods known. **Availability:** Rare as lumber only. **Price Range:** Valuable.



110 — BUTTERNUT (Plain Sliced)

**BUTTERNUT** (*Juglans cinerea*)

White Walnut (See Photo 110)

**Source:** North Central States. **Color:** Warm buttery tan. **Pattern:** Satiny wood with leafy grain. **Characteristics:** Soft to medium textured with occasional small dark spots in some flitches. **Uses:** Fine architectural installations, general wall paneling and furniture. **Availability:** Limited as veneer and lumber. **Price Range:** Average.

**BUTTONWOOD** (*Platanus occidentalis*)

See Sycamore, American

**CANALETTA** (*Cordia gerascanthus*)

Canalete, Cyp, Cypre, Princewood, Solera, Ziricote

**Source:** Northern South America. **Color:** Purplish to dark brown. **Pattern:** Stripes—various colors. **Characteristics:** Very hard. **Uses:** Tool and knife handles; turnery and walking sticks. **Availability:** Rare as veneer. **Price Range:** Valuable.

**CAPOMO** (*Brosimum alicastrum*)

Breadnut, Capome, Laredo, Lerado, Ogechi, Ojoche, Ramon

**Source:** Central America. **Color:** Yellowish sapwood; reddish heartwood. **Pattern:** Cross ripple, lustrous. **Characteristics:** Hard. **Availability:** Rare as veneer (quarter sliced). **Price Range:** Average.

**CARPATHIAN ELM** (*Ulmus campestris*)

See Elm, Carpathian Burl

**CATALPA** (*Catalpa speciosa*)

**Source:** South Central United States. **Color:** Brown. **Characteristics:** Light; fairly soft; not strong; somewhat brittle; close-grained. **Availability:** Rare. **Price Range:** Inexpensive to average.

**CATIVO** (*Prioria copaifera*)

Florisa and Tabasara

**Source:** Tropical America, including West Indies. **Color:** Heartwood—brown; thick sapwood—dingy white color. **Pattern:** Dull in appearance, straight-grained. **Characteristics:** Medium textured and rather stringy; contains considerable deep brown gum. **Uses:** Cross banding, center ply, etc. **Availability:** Readily available as half-round veneer. **Price Range:** Inexpensive.

**CAVIÚNA** (*Machaerium* spp.)

See Pau Ferro

**CEDAR, AFRICAN** (*Guarea cedrata*)

See Bosse'

**CEDAR, AROMATIC RED** (*Juniperus virginiana*)

Eastern Redcedar, Juniper, Pencil Cedar, Red Cedar, Southern Redcedar, Tennessee Redcedar

**Source:** Occurs over most of eastern two-thirds of United States. Largest production in Southeastern and South Central States. **Color:** Light red, streaks of light. **Pattern:** Knotty with other natural characteristics always present. **Characteristics:** Although brittle, it is regarded as a fine



## Selection guide to a world of fine hardwoods . . .

wood to work. *Uses:* Cedar storage chests; lining of closets and chests; pails; small articles of woodenware; lead pencils. *Availability:* Limited as veneer (sawn or sliced); limited as lumber. *Price Range:* Average.

### **CEDAR, BRAZILIAN** (*Cedrela spp.*)

See Cedar, Spanish

### **CEDAR, CENTRAL AMERICAN** (*Cedrela spp.*)

See Cedar, Spanish

### **CEDAR, RED** (*Juniperus virginiana*)

See Cedar, Aromatic Red

### **CEDAR, SPANISH** (*Cedrela odorata*)

*Cedrela*, *Cedro*, Honduras, Brazilian Cedar, etc., according to origin

*Source:* Every country south of the United States except Chile, in commercial size according to record. *Color:* Light red. *Pattern:* Straight grain; wavy; curly and mottled grain. *Characteristics:* Soft. *Uses:* Cigar boxes; lead pencils; boat building and pattern work; furniture; doors. Most widely used timber in Tropical America. *Availability:* Limited as veneer (quarter sliced, half-round); readily available as lumber. *Price Range:* Inexpensive.

### **CEDAR, SOUTHERN RED** (*Juniperus silicicola*)

Similar to Cedar, Aromatic Red

### **CEDAR, TENNESSEE RED** (*Juniperus virginiana*)

See Cedar, Aromatic Red

### **CEDRO MACHO** (*Carapa guianensis*)

See Andiroba

### **CEIBA** (*Ceiba pentandra*)

Kapok, Odoum, Silk Cotton Tree, Fromager, Fuma

*Source:* West Africa, Mexico. *Color:* Reddish-grey, sometimes with yellowish streaks, or greyish. *Pattern:* Cross-grained; dull. *Characteristics:* Very absorbent; coarse textured; soft when green; brittle when dry. *Uses:* Stools; simple household furniture; doors; tables; plates; trays and boxes. *Availability:* Limited. *Price Range:* Inexpensive.

### **CELTIS** (*Celtis spp.*)

Esa, Ita, Itako, Ohia (Also see Hackberry)

*Source:* West Africa. *Color:* Whitish to pale yellow. *Pattern:* Grain interlocked, which produces stripe on quarter-sliced surfaces. *Characteristics:* Hard; fairly heavy; normally works well with some picking up in planing. *Availability:* Rare. *Price Range:* Average.

### **CHEN CHEN** (*Antiaris africana*)

Ako, Quen Quen

*Source:* African Gold Coast to Cameroons. *Color:* White to yellow-gray. *Pattern:* Stripe. *Characteristics:* Soft; works well; light in weight. *Availability:* Rare as veneer (quarter



111 — CHERRY (Plain Sliced — Gummy)



112 — CHERRY (Plain Sliced)



sliced); readily available as lumber. *Price Range:* Inexpensive to average.

**“CHERRY,” AFRICAN** (*Tieghemella leckelii*)  
See Makoré

**CHERRY, AMERICAN BLACK** (*Prunus serotina*)  
Black Rum Cherry, Wild Black Cherry (See Photos 111, 112, 113)

*Source:* Maine to Dakotas and Appalachians; production largely Pennsylvania to West Virginia. *Color:* Light reddish-brown. *Pattern:* Straight-grained; satiny; some figured. Small gum pockets are normal markings. *Characteristics:* Light; strong; rather hard; fine-grained. *Uses:* Fine furniture; wood-work and engravers blocks. *Availability:* Readily available as veneer (quarter sliced, half-round); readily available as lumber. *Price Range:* Average.

**CHERRY, FRENCH** (*Prunus cerasus*)

*Source:* France, England. *Color:* Heartwood is yellowish-brown. *Pattern:* Similar to American Cherry. *Uses:* Fine cabinetry. *Availability:* Rare. *Price Range:* Valuable.

**CHESTNUT, AMERICAN** (*Castanea dentata*)  
(See Photo 114)

*Source:* Eastern United States. *Color:* Rich light brown. *Characteristics:* Coarse textured, generously sprinkled with worm holes. *Uses:* Fine architectural installations and general wall paneling. *Availability:* Rare. *Price Range:* Valuable.



113 — CHERRY (Plain Sliced — Figured)

**CHESTNUT, SWEET** (*Castanea sativa*)

Spanish Chestnut, European Chestnut

*Color:* Light tan. *Characteristics:* No worm holes, looks a little like white oak. *Pattern:* Straight to occasionally spiral grain. *Uses:* Fine architectural installations. *Availability:* Limited. *Price Range:* Average.

**CHITTAM WOOD** (*Cotinus obovatur*)

Biblical Chittam Wood, Smoke Tree

*Source:* Eastern United States. *Color:* Bright, clear, rich orange color; thin, nearly white, sapwood. *Availability:* Rare.

**CINNAMON** (*Cinnamomum zeylanicum*)

*Source:* Ceylon, China, Japan. *Color:* Light tan or straw to dark brown; variegated. *Characteristics:* Fine grain. *Availability:* Rare. *Price Range:* Valuable.

**CLARO WALNUT** (*Juglans spp.*)

See Walnut, California

**COCOBOLO** (*Dalbergia retusa*, *Dalbergia hypoleuca*)

Nambar, also see Grenadillo

*Source:* Central America. *Color:* Yellowish-brown. *Pattern:* Straight to interwoven grain. *Characteristics:* Very hard. *Uses:* Modern furniture; fancy cabinet work. *Availability:* Rare as veneer (quarter sliced); readily available as lumber. *Price Range:* Valuable.



114 — CHESTNUT (Plain Sliced — Wormy)



## Selection guide to a world of fine hardwoods . . .

### **COFFEETREE** (*Gymnocladus dioica*) Kentucky Coffeetree

**Source:** USA-Central Hardwoods Region. **Color:** Rich, light brown tinged with red, with thin lighter colored sapwood. **Pattern:** Strong annual ring markings. **Characteristics:** Heavy although not hard; strong; coarse-grained. **Availability:** Rare. **Price Range:** Average.

### **CONGO WOOD** (*Louoa* spp.) See Tigerwood

### **COTTONWOOD** (*Populus deltoides*)

Eastern Cottonwood, Eastern Poplar, Carolina Poplar  
**Source:** United States. **Color:** Creamy-white with dark markings. **Pattern:** Slightly lustrous but not very distinct. **Characteristics:** Numerous pores which are exceedingly small; light weight; weak; works fairly well although stringy and does not split. **Uses:** Box shooek; woodenware; luggage interiors. **Availability:** Readily available as veneer. **Price Range:** Inexpensive.

### **CUCUMBERTREE** (*Magnolia acuminata*) Magnolia, Cucumber Magnolia

**Source:** Eastern states. **Color:** Light greenish-brown, with thick light yellow sapwood. **Pattern:** Not very distinct. **Characteristics:** Moderately hard; close-grained; not strong. **Uses:** Same as Yellow Poplar. **Availability:** Readily available. **Price Range:** Inexpensive.

### **CYPRESS, BALD** (*Taxodium distichum*)

### Baldcypress, Black, Red, Southern, White, Yellow, and Common Cypress

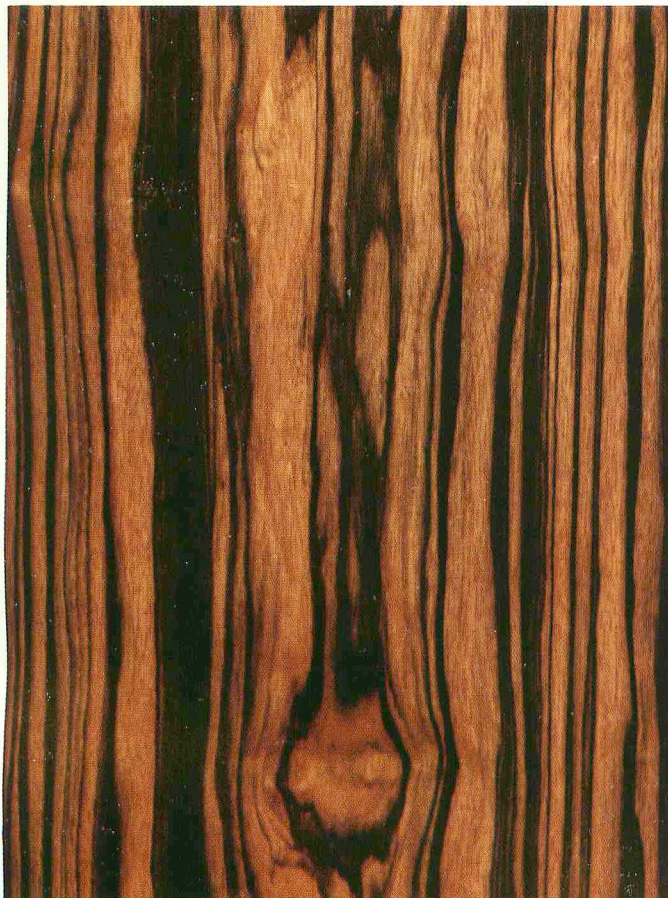
**Source:** Gulf States, Middle Mississippi Valley, Southeastern Coast of the United States. **Color:** Yellowish-red, often nearly salmon-colored. **Pattern:** Very distinct leafy grain. **Characteristics:** Annual rings combine soft, open-meshed spring wood, and hard, closer-grained summer wood. Moderately strong and light; very durable. **Uses:** Normally for its great durability (against decay); also for architectural interiors and furniture, especially Pecky Cypress for that "textured look". **Availability:** Limited as veneer; readily available as lumber. **Price Range:** Average.

### **CYPRESS, CROTCH** (*Taxodium distichum*) See Faux Satine Crotch

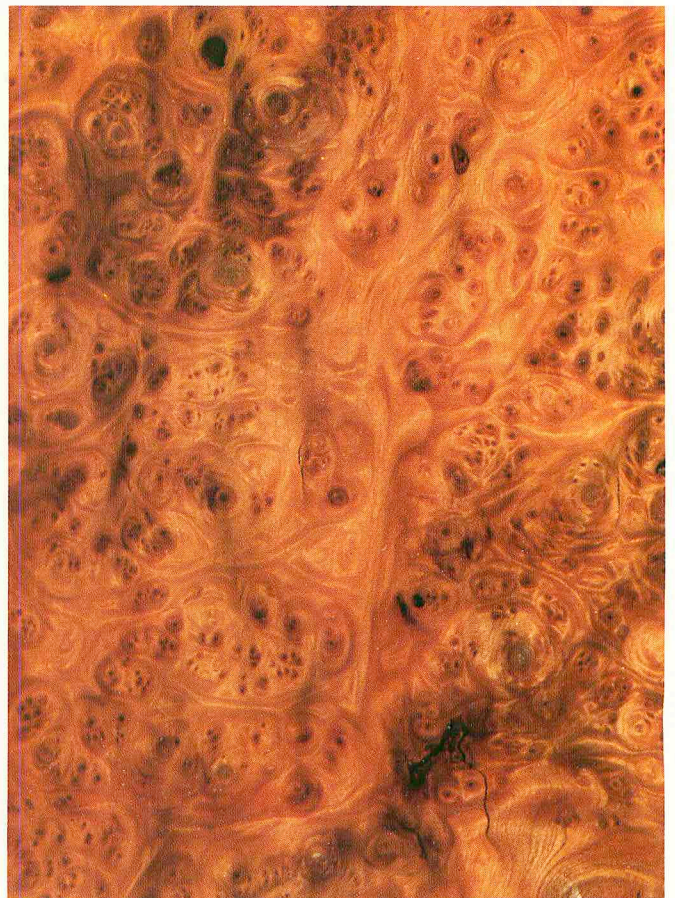
### **DAO** (*Dracontomelum dao*) See Paldao

### **DOGWOOD** (*Cornus florida*)

Flowering Dogwood, Cornel  
**Source:** British Columbia, Vancouver Island, North and Central America. **Color:** Yellowish-brown; darker-colored heart. **Pattern:** Bright, rather lustrous surface; prominent medullary rays. **Characteristics:** Close, fine, hard, compact, interlocking grain capable of very smooth surface when worked. **Uses:** Shuttle blocks and golf club heads; wood engraving; charcoal for gunpowder. **Availability:** Rare as lumber. **Price Range:** Valuable.



115 — EBONY, MACASSAR (Plain Sliced)



116 — ELM, CARPATHIAN (Burl — Half-Round)



**EBONY** (*Diospyros ebenum*)

Ceylon Ebony—one of the East Indian Ebony group

This true ebony from Ceylon is most dense and dark (nearly uniform black wood), of the East Indian group, but very rare.

**EBONY, AFRICAN** (*Diospyros spp.*)

Black Ebony, Calabar, Gabun, Lagos, Cameroon Ebony, Nigerian Ebony, Gaboon Ebony

*Source:* Africa. *Color:* Very deep black. *Pattern:* Very indistinct grain. *Characteristics:* Hard. *Uses:* Turnery; inlaid work; fancy goods; tool handles. *Availability:* Rare. *Price Range:* Valuable.

**EBONY, EAST INDIAN** (*Diospyros spp.*)

Indian Ebony, Ceylon Ebony, Andaman Marble-wood

*Source:* Northern India, Himalaya, Ceylon, Andaman Islands. *Color:* Black with brown to pale brown to white colored streaks present. *Pattern:* Rays are very fine, joined at right angles by similar fine light-colored bars, forming a minute pattern. *Characteristics:* Exceedingly minute pores somewhat scarce; hard; dense and of great weight. *Uses:* Piano keys; inlays and marquetry; finger-boards of violins; handles. *Availability:* Rare as veneer or lumber. *Price Range:* Valuable.

**EBONY, MACASSAR** (*Diospyros celebica*)

Perhaps the most preferred of the East Indian Ebony group. (See Photo 115)

*Source:* East Indies. *Color:* Dark brown to black; large proportion of the logs are streaked with yellowish-brown or

gray. *Pattern:* Rays are fine and very indistinct; the grain markings largely from the brown streaks on black background. *Characteristics:* Dense; close grain. *Uses:* Wall paneling; inlays; ornamental work. *Availability:* Readily available as veneer (quarter sliced); limited as lumber. *Price Range:* Valuable.

**EBONY, NIGERIAN** (*Diospyros crassiflora*)

See African Ebony

**ELM, AMERICAN** (*Ulmus americana*)

Gray Elm, White Elm, Soft Elm, Water Elm (See Photo 117)

*Source:* U.S. east of Rockies, Southeastern Canada. *Color:* Light greyish-brown to occasionally pinkish to brown heartwood with greyish-white to light brown wide sapwood. Wood from old growth trees in the Upper Lake States tends to be a more uniform grey in color. *Pattern:* Conspicuous growth pattern like ash, straight to sometimes interlocked grain. *Characteristics:* Moderately heavy; moderately hard; excellent bending qualities; tough, difficult to split, somewhat difficult to season. *Uses:* Widely used as veneer, some for fine furniture and wall paneling. *Availability:* Readily available as veneer (quarter sliced, half-round); readily available as lumber. *Price Range:* Average.

**ELM, CARPATHIAN "BURL"** (*Ulmus campestris*)

English Elm (See Photo 116)

*Source:* France, England, Carpathian Mountains. *Color:* Varies from almost brick-red to light tan. *Pattern:* A beautiful medium to fine burl. *Characteristics:* Defects of all kinds



117 — ELM, GRAY (Plain Sliced)



118 — ELM, RED (Plain Sliced)



## Selection guide to a world of fine hardwoods . . .

in almost every burl. *Uses:* Fine cabinetry—decorative areas. *Availability:* Limited as veneer only. *Price Range:* Valuable.

**ELM, ENGLISH** (*Ulmus campestris*)  
See Elm, Carpathian Burl

**ELM, RED** (*Ulmus rubra*)  
Slippery Elm, Soft Elm (See Photo 118)  
*Source:* Southeastern Canada and United States including eastern half of eastern Great Plains. *Color:* Reddish-brown to dark brown heartwood with greyish-white to light brown narrow sapwood. *Pattern:* Conspicuous growth pattern like ash. *Characteristics:* Heavy; hard; strong; durable; very coarse-grained. *Uses:* Wall paneling and furniture. *Availability:* Readily available as veneer; readily available as lumber. *Price Range:* Average.

**ELM, ROCK** (*Ulmus thomasii*)  
(Once known as *Ulmus racemosa*)  
Hard Elm, Cork Elm, Hickory Elm  
*Source:* Southern Lake States, east from middle of Great Plains, south to southern Tennessee, east to West Virginia to lower New England States. *Color:* Similar to American or Gray Elm. *Characteristics:* Much harder and stronger than other elms. *Pattern:* Similar to American or Gray Elm. *Uses:* Similar to American or Gray Elm. *Availability:* Similar

to American or Gray Elm. *Price Range:* Similar to American or Gray Elm.

**ETIMOÉ** (*Copaifera salikounda*)  
African “Rosewood” (misleading), Olumi, Allihia, Nomatou, Entedua, Buini, Gum Copal.  
*Source:* West Africa. *Color:* Reddish-brown with definite stripes. *Uses:* Primarily for rubber, but untapped trees make fine veneer and lumber for furniture as Rosewood substitute. *Availability:* Rare. *Price Range:* Valuable.

### EUCALYPTUS

This genus, largely of Australian origin, produces a great variety of woods—wide range of texture, color and behavior.

- 1. TASMANIAN OAK** (*Eucalyptus* spp.)  
Mountain Ash, Argento (Tasmanian Oak and Mountain Ash are misleading terms.)  
*Source:* From three (3) timbers of Australia. *Color:* Tan to pinkish to golden brown. *Pattern:* Coarse straight grain fairly plain. *Characteristics:* Moderately durable, machines well. *Uses:* Construction and furniture. *Availability:* Readily available with increased demand. *Price Range:* Valuable.
- 2. JARRAH** (*Eucalyptus marginata*)  
*Source:* Coastal belt of Southwest Australia. *Color:*



119 — GABOON (Quarter Sliced — Figured)



120 — GONCALO ALVES (Plain Sliced)



Pinkish to dark red heartwood with pale narrow sapwood. *Pattern*: Straight grain, occasionally interlocked. *Characteristics*: Heavy; hard; durable with gum pockets. *Uses*: Decking; heavy timbers; flooring. *Availability*: Mostly as lumber. *Price Range*: Average.

**3. KARRI** (*Eucalyptus diversicolor*)

*Source*: Southwestern Australia. *Color*: Medium to reddish-brown. *Pattern*: Similar to Jarrah, occasionally figured. *Characteristics*: Heavy; hard; moderately durable. *Uses*: Heavy timber. *Availability*: Readily available with demand. *Price Range*: Average.

**4. BLUE GUM** (*Eucalyptus globulus*)

(Name misleading) The *Eucalyptus* growing on the Pacific Coast are very difficult to season and not widely used for veneer or lumber.

**FAUX ROSE** (*Dalbergia greveana*)

See Madagascar Rosewood

**FAUX SATINE CROTCH** (*Taxodium distichum*)

Cypress Crotch

*Source*: Southeastern United States. *Color*: Yellowish-brown. *Pattern*: Crotches and swirls. *Characteristics*: Soft; oily; easily worked. *Uses*: Decorative areas of furniture and architectural interiors. *Availability*: Rare. *Price Range*:

Valuable.

**GABOON** (*Aucoumea klaineana*)

Angouma, Gaboon Wood, Okoumé (See Photo 119)

*Source*: African West Coast. *Color*: Pale pink to reddish-brown. *Pattern*: Stripe (dark); straight-grained. *Characteristics*: Fairly light in weight; fairly strong for its weight. *Uses*: Furniture. *Availability*: Readily available as veneer (quarter sliced, half-round). *Price Range*: Inexpensive, except highly figured types.

**GONCALO ALVES** (*Astronium fraxinifolium*)

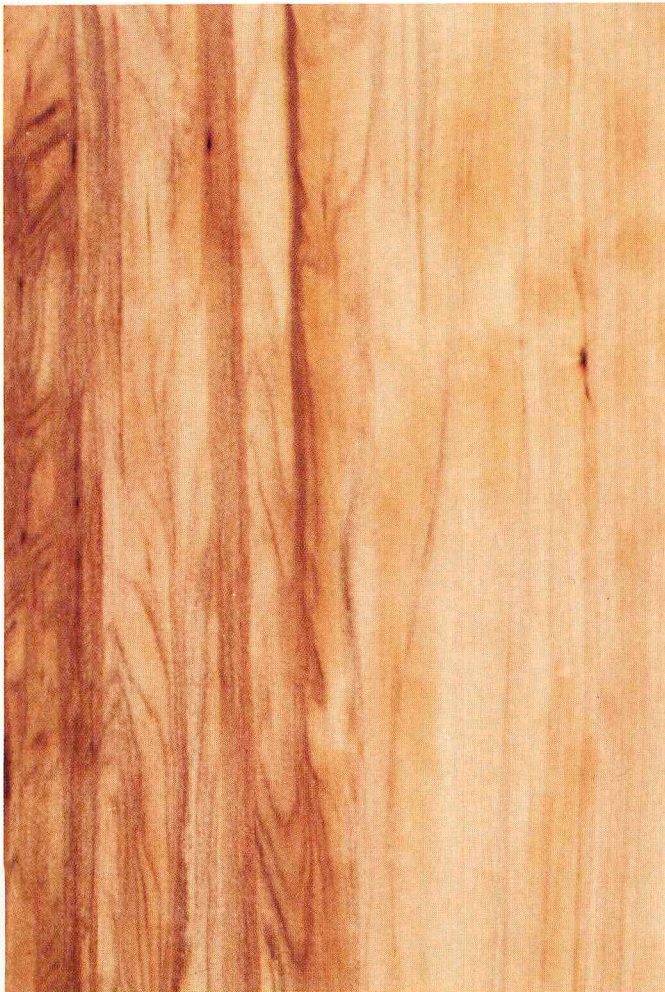
Kingwood, Gateado, Mura (See Photo 120)

*Source*: Brazil and northern South America. *Color*: Dark with black bands. *Pattern*: Brown streaks; rays very numerous and exceedingly fine. *Characteristics*: Small pores very regular in position; contrary layers of hard and soft texture; capable of very smooth surface; strong and durable. *Availability*: Rare as veneer (quarter sliced). *Price Range*: Valuable.

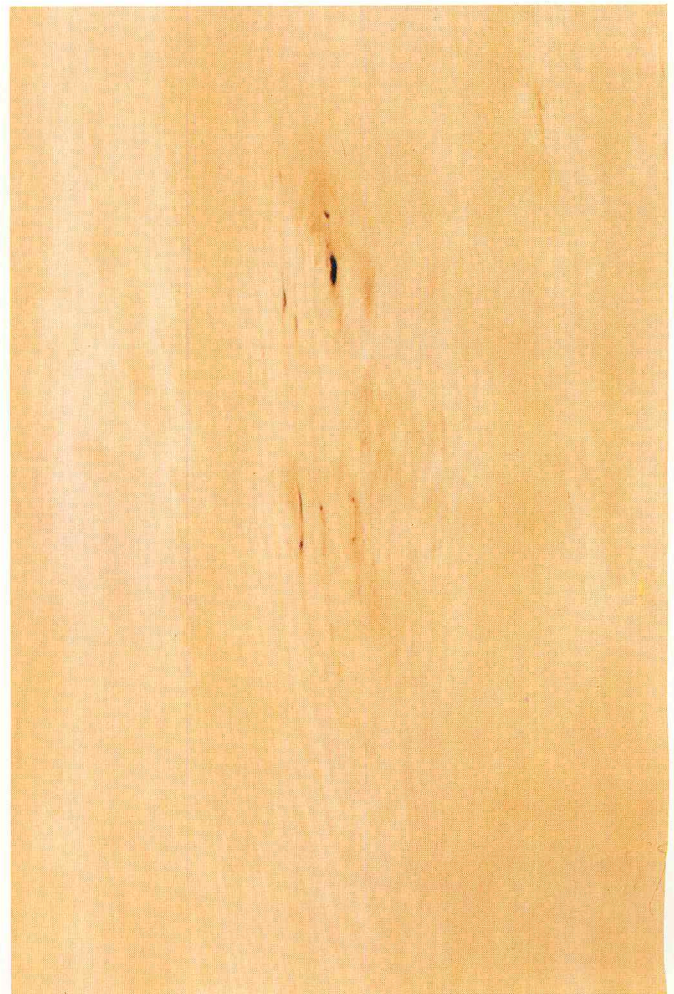
**GREENHART** (*Ocotea rodiaei*)

Demerara Greenheart

*Source*: British Guiana and West Indies. *Color*: Light olive to nearly black. *Characteristics*: Extreme hardness, weight and strength. *Uses*: Primarily for construction of ships and docks; piling; flooring (locally); fishing rods, etc. *Availability*: Rare as lumber only. *Price Range*: Valuable.



121 — GUM, RED (Plain Sliced — Figured)



122 — GUM, TUPELO (Plain Sliced)



## Selection guide to a world of fine hardwoods . . .

### **GRENADILLO** (*Dalbergia grenadillo*)

Cocobolo, Negro, Rojo, San Domigan Rosewood

Source: Central America. Color: Reddish-brown to violet.

Pattern: Dark contrasty. Uses: Plain sliced face veneer.

Availability: Limited. Price Range: Valuable.

### **GUANACASTE** (*Enterolobium cyclocarpum*)

See Kelobra

### **GUAYACAN** (*Guaiacum* spp.)

See Lignum Vitae

### **GUM, AMERICAN RED** (*Liquidambar styraciflua*)

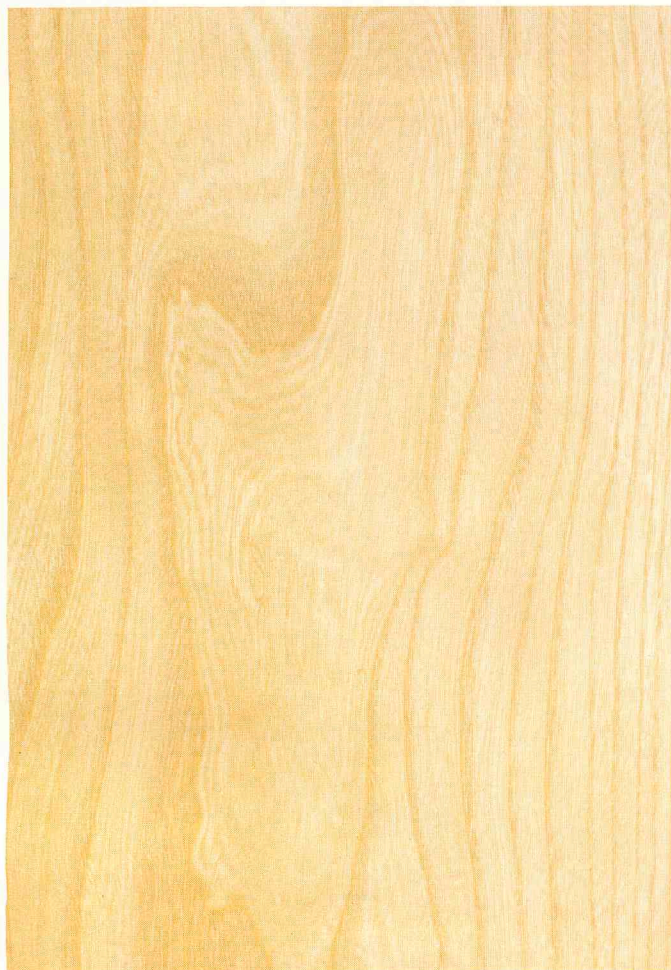
American Sweetgum—Heartwood and sapwood sold separately as:

#### **1. GUM, RED** (Heartwood)

Southern Gum, Sweet Gum (See Photo 121)

Source: Wide range in United States but commercial production is largely from lower Mississippi Valley.

Color: Reddish-brown. Pattern: Dark streaks, often figured. Characteristics: Moderately heavy; hard; straight; close-grained; not exceedingly strong. Red Gum or the heartwood is often selected for its attractive figure. Uses: Architectural; cabinetmaking; wooden dishes and fruit boxes. Availability: Readily available as veneer (plain sliced, half-round, rotary); readily available as lumber. Price Range: Average.



123 — HACKBERRY (Plain Sliced)

#### **2. GUM, SAP** (Sapwood of the same species)

(See Photo 122)

Source: Same. Color: Pinkish white often blued by sap

stains. Pattern: Plain but not strong; usually watery.

Characteristics: Same as above except not as durable.

Uses: Plywood (interiors) and lumber for furniture, T.V.

cabinets, etc. Availability: Readily available as veneer

(rotary); readily available as lumber. Price Range:

Inexpensive.

### **GUM, BLACK** (*Nyssa sylvatica*)

Sour Gum, Black Tupelo, Pepperidge

Source: United States from Maine and New York through Central States to Louisiana and Texas.

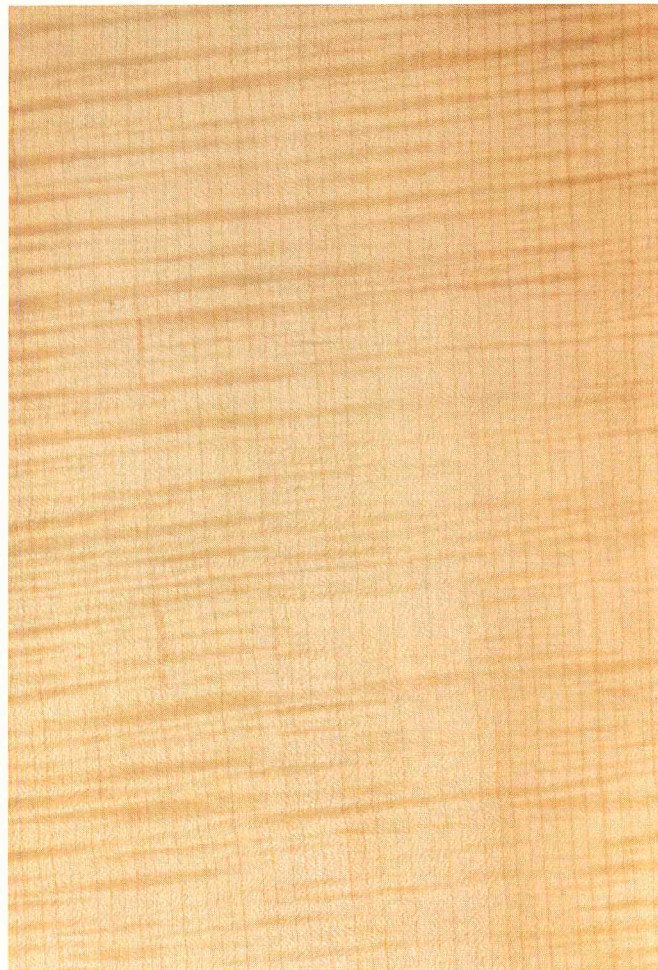
### **GUM, TUPELO** (*Nyssa aquatica*)

Bay Poplar, Tupelo (trade), Water Tupelo

Source: Southeastern Virginia through Mississippi Delta region—Southeast Texas northward into southern Illinois.

Color: Used along with sap gum and yellow-poplar. However, the wood is whiter in color in the sapwood to yellowish or brownish-streaked heartwood. Pattern: Rather indistinct.

Characteristics: The different species of *Nyssa* are so nearly alike that usually no attempt is made to separate them; texture fine; uniform grain usually interlocking. Uses: Mainly as commercial veneer, cross banding, cores and backs. Availability: Readily available. Price Range: Inexpensive.



124 — HAREWOOD, ENGLISH (Plain Sliced — Figured)



**HACKBERRY** (*Celtis occidentalis*)

Common Hackberry (See Photo 123)

Source: New England to Virginia and west through Iowa, Missouri and Kansas. Color: Yellowish. Pattern: Rather distinct. Characteristics: Heavy; moderately hard; coarse-grained. Availability: Readily available as veneer (quarter sliced, half-round); readily available as lumber. Price Range: Inexpensive to average.

**HAREWOOD, ENGLISH** (*Acer pseudoplatanus*)

English Sycamore, Sycamore Plane, Plane, Great Maple (See Photo 124)

Source: England. Color: Natural white. Called English white before dyeing. Usually dyed silver gray. Pattern: Both plain and figured. Uses: Marquetry; inlay; paneling. Availability: Rare as veneer (quarter sliced); rare as lumber. Price Range: Valuable.

**HICKORY** (*Carya spp.*)

There are some 16 species and 20 varieties in eastern North America of which the most important commercially is Shagbark Hickory (*Carya ovata*). (See Photos 125, 126)

Source: From the Northeastern United States to the Southwest into Mexico. Color: White to cream with inconspicuous fine brown lines and tan heartwood. Characteristics: Extremely tough and resilient; quite hard and only moder-

ately heavy. Uses: As veneer—furniture; skis and moulded and bent plywood requiring extreme strength. Availability: Readily available as veneer; readily available as lumber. Price Range: Average.

**HOLLY** (*Ilex opaca*)

American Holly

Source: United States—Maine to Florida. Color: Very white. Pattern: Very close-grained; almost no visible pattern. Characteristics: Light; tough; not strong. Uses: Cabinetmaking; inlay work. Availability: Rare as veneer; limited as lumber. Price Range: Average.

**HORNBEAM** (*Carpinus betulus*)

European Hornbeam

Source: Europe, Turkey, Iran. Color: Dull white with greyish streaks. Pattern: Cross-grained; fine textured. Characteristics: Very hard and heavy. Availability: Rare, mostly as lumber. Price Range: Average.

**IMBUYA** (*Phoebe porosa*)

Brazilian "Walnut," Determa, Embuia, Imbuia

Source: Brazil. Color: Rich brown. Pattern: Sometimes blistered. Characteristics: Fine textured; moderately hard and heavy. Uses: High-grade furniture; joinery; paneling; flooring. Availability: Rare as veneer (plain sliced, half-round). Price Range: Average.



125 — HICKORY (Plain Sliced — Narrow Heart)



126 — HICKORY (Plain Sliced — Character Marked)



## Selection guide to a world of fine hardwoods . . .

### **IROKO** (*Chlorophora excelsa*)

Oroko, Odoum, African "Teak," Kambala

Source: Africa, West Coast. Color: Light brown to rich golden brown. Pattern: Quartered. Characteristics: Somewhat like teak. Uses: Fine furniture and architectural panels. Availability: Rare. Price Range: Average.

### **IRONWOOD, AMERICAN** (*Carpinus caroliniana*)

Source: Northeastern States (including Quebec) west and southwest through Central States into northern Mexico. Color: Brownish-gray. Characteristics: Extremely hard; heavy and strong. Uses: Mallets; implements; and (rarely) as flooring. Availability: Rarely cut into veneer; rare as lumber. Price Range: Average.

### **JACARANDA** (*Dalbergia nigra*)

See Rosewood, Brazilian

### **JARRAH** (*Eucalyptus marginata*)

See Eucalyptus spp.

### **JEQUITIBA** (*Cariniana*, spp.)

Jequitiba Rosa

Source: Brazil and northern South America. Color: Yellowish to reddish-brown. Pattern: Straight grained; fine texture. Characteristics: Variable weight; medium strength. Uses: Construction; cabinets. Availability: Limited. Price Range: Average.

### **JUNIPER** (*Juniperus virginiana*)

See Cedar, Aromatic Red

### **KARRI** (*Eucalyptus* spp.)

See Eucalyptus

### **KAMBALA** (*Chlorophora excelsa*)

See Iroko

### **KELOBRA** (*Enterolobium cyclocarpum*)

Guanacaste, Genicero, Jenisero, Parota, Kolobra

Source: Mexico, Guatemala, British Honduras. Color: Brown with greenish cast, sometimes streaked. Pattern: Large figure with wavy lines. Characteristics: Coarse texture; very large pores; pronounced break between sapwood and heartwood. Uses: Furniture and cabinetry. Availability: Rare as veneer (quarter sliced); limited as lumber. Price Range: Average.

### **KEWAZINGA** (*Guibourtia demeusii*)

See Bubinga

### **KINGWOOD** (*Dalbergia cearensis*)

Violetwood, Violete

Source: Northern South America, mainly Brazil. Color: Violet to purple to brown with age; colorful wood. Pattern: Fairly prominent grain. Characteristics: Rich colorings. Uses: Marquetry; inlays. Availability: Rare, and in very small sizes. Price Range: Valuable.



127 — KOA (Plain Sliced)



128 — LACEWOOD (Quarter Sliced)



**KOA** (*Acacia koa*)

(See Photo 127)

**Source:** Hawaii. **Color:** Golden brown with dark streaks. **Pattern:** Brown streaks; lustrous sheen. Occasionally develops a perfect fiddleback figure or other cross figure. **Characteristics:** Walnut-like texture but not as hard. **Uses:** Originally for art objects and musical instruments; also for fine furniture and paneling. **Availability:** Limited as veneer (quarter sliced); limited as lumber. **Price Range:** Valuable.

**KOKKO** (*Albizzia lebbbeck*)

Koko

**Source:** Andaman Islands, India, Burma, Ceylon. **Color:** Brown and golden in extremely varied tones. **Pattern:** Often handsome figure, interlocked grain. **Characteristics:** Coarse grain; weight variable. **Uses:** Veneer and lumber. **Availability:** Rare. **Price Range:** Valuable.

**KOKRODUA** (*Pericopsis elata*)

See Afrormosia

**KOTO** (*Pterygota macrocarpa*)

African Chestnut

**Source:** Ivory Coast, Nigeria, Cameroon. **Color:** Yellowish white. **Pattern:** Dull and porous. **Uses:** Veneer (quarter sliced, half-round). **Availability:** Readily available. **Price Range:** Inexpensive.



129 — LAUAN, RED (Quarter Sliced)

**LACEWOOD** (*Cardwellia sublimis*)

Australian Silky "Oak", Queensland Silky "Oak", Selano, Silky "Oak" (See Photo 128)

**Source:** Queensland, Australia. **Color:** Light pink with silvery sheen. **Pattern:** Small flaky grain due to large rays. **Characteristics:** Very attractive overall pattern when used on small areas. **Uses:** Often as borders and limited, highly figured areas of fine furniture. **Availability:** Rare as veneer (quarter sliced). **Price Range:** Valuable.

**LAUANS**

The Philippine Islands are the source of a great variety of hardwoods, but a few of which are imported into the United States. The greatest volume comes from a group sold commercially as "Philippine Mahogany", although they are not related to the true mahoganies as is evidenced by the botanical names. Several fine hardwoods from the Philippine Islands and that part of the world are known and marketed under their own names such as Narra, Almon, Bella-Rosa, Sonora and Paldao. These are listed elsewhere alphabetically. Those classified and sold as Philippine Mahogany are quite varied in color and texture. They include the softer species of *Shorea* that are light colored to reddish-brown in color and the species of *Parashorea* and *Pentacme*. This group is divided into two classes as follows:

**(1) DARK RED LAUAN GROUP****RED LAUAN** (*Shorea negrosensis*)

130 — LAUAN, WHITE (Quarter Sliced)



**TANGUILE** (*Shorea polysperma*)

**TIANONG** (*Shorea agsaboensis*)

## (2) LIGHT RED LAUAN GROUP

**ALMON** (*Shorea almon*)

**WHITE LAUAN** (*Pentacme contorta*)

**BAGTIKAN** (*Parashorea plicata*)

**MAYAPIS** (*Shorea squamata*)

**Characteristics:** In general, these woods, as compared with the Tropical American and African Mahoganies, are more coarse grained and stringy. They require a greater amount of sanding to produce a finishing surface and are much less stable under atmospheric (moisture) changes.

### 1. LAUAN, RED (*Shorea negrosensis*)

Also called "Philippine Mahogany". Sold as Philippine hardwood. (See Photo 129)

**Source:** Philippine Islands. **Color:** Red to brown. **Pattern:** Ribbon stripe; interlocking grain. **Characteristics:** Coarse texture; large pores. **Uses:** Furniture; doors and cabinet-making. **Availability:** Readily available as veneer (quarter

sliced, rotary cut); readily available as lumber. **Price Range:** Inexpensive.

### 2. LAUAN, WHITE (*Pentacme contorta*)

(See Photo 130)

**Source:** Philippine Islands. **Color:** Light to greyish-brown to light reddish-brown. **Pattern:** Crossed grain. **Characteristics:** Medium heavy; rather coarse texture. **Uses:** Furniture; cabinet work. **Availability:** Readily available, less plentiful than Red Lauan. **Price Range:** Inexpensive.

### 3. TANGUILE (*Shorea polysperma*)

**Source:** Widely scattered over Philippine Islands, especially at higher altitudes. **Color:** Dark reddish-brown. **Pattern:** When quartered shows distinct ribbon stripe. **Characteristics:** Moderately fine grain; intermediate to fine pores; moderately hard (as compared with other associated species); fairly light weight. **Uses:** General. **Availability:** Readily available. **Price Range:** Inexpensive.

### LAUREL, CALIFORNIA (*Umbellularia californica*)

Myrtle, See Myrtle Burl

### LAUREL, EAST INDIAN (*Terminalia tomentosa*)

East Indian "Walnut" (See Photo 131)

**Source:** India and Burma. **Color:** Gray or brown with black lines. **Pattern:** Striped; occasional block-mottle or fiddleback



131 — LAUREL, EAST INDIAN (Plain Sliced)



132 — LIMBA (Quarter Sliced)



figure; indistinct rays. *Characteristics*: Coarse-grained; hard and brittle; pores not numerous. *Uses*: Fine cabinetry. *Availability*: Rare as veneer (quarter sliced); rare as lumber. *Price Range*: Valuable.

**LEMONWOOD** (*Calycophyllum candidissimum*)

Degame

*Source*: Central America. *Color*: Creamy yellow; sapwood colorless to brownish-white. *Pattern*: Generally straight grain. *Characteristics*: Uniformly textured; easy to work; hard; heavy; tough and strong. *Uses*: Archery bows; turnery; shafts; tool handles, fishing rods; cabinet work. *Availability*: Rare as veneer; limited as lumber. *Price Range*: Valuable.

**LERADO** (*Brosimum alicastrum*)

See Capomo

**LIGNUM VITAE** (*Guaiacum officinale*, *Guaiacum sanctum*)

Guayacan

*Source*: Tropical North America; West Indies, south to Venezuela. *Color*: Variable from olive brown to dark brown and nearly black. *Characteristics*: Especially oily or waxy wood; mildly scented; extremely hard and heavy, with decidedly interwoven grain texture; very fine; highly difficult to work; especially durable. *Uses*: According to Record, Lignum Vitae (Wood of Life) has been an article of trade since 1508 when introduced in Europe for medical pur-

poses. Its most important use is for bearings or bushings; lining propellor shafts of steamships due to self-lubricating properties, especially under water; mallets; stencil and chisel blocks; brush backs. *Availability*: Rare as lumber and in comparatively small sizes. *Price Range*: Valuable.

**LIMBA** (*Terminalia superba*)

Limbo, Afara, Frake, Offram (See Photo 132)

*Source*: West Africa. *Color*: Pale yellow to light brown. *Pattern*: Rays are fine and irregular; pores are scarce, but large enough to give an interesting grain character. *Characteristics*: Medium texture and hardness; a naturally blond wood of good working properties. *Uses*: Architectural paneling and woodwork; contemporary furniture. *Availability*: Limited as veneer (quarter sliced); limited as lumber. *Price Range*: Average. Not commonly produced but could be cut in volume.

**LOCUST, BLACK** (*Robinia pseudoacacia*)

Yellow Locust

*Source*: Southern United States. *Color*: Yellowish-green to brown. *Characteristics*: An attractive fairly prominent grain. Often defective. *Uses*: Widely as fence posts. *Availability*: Rare. *Price Range*: Average.

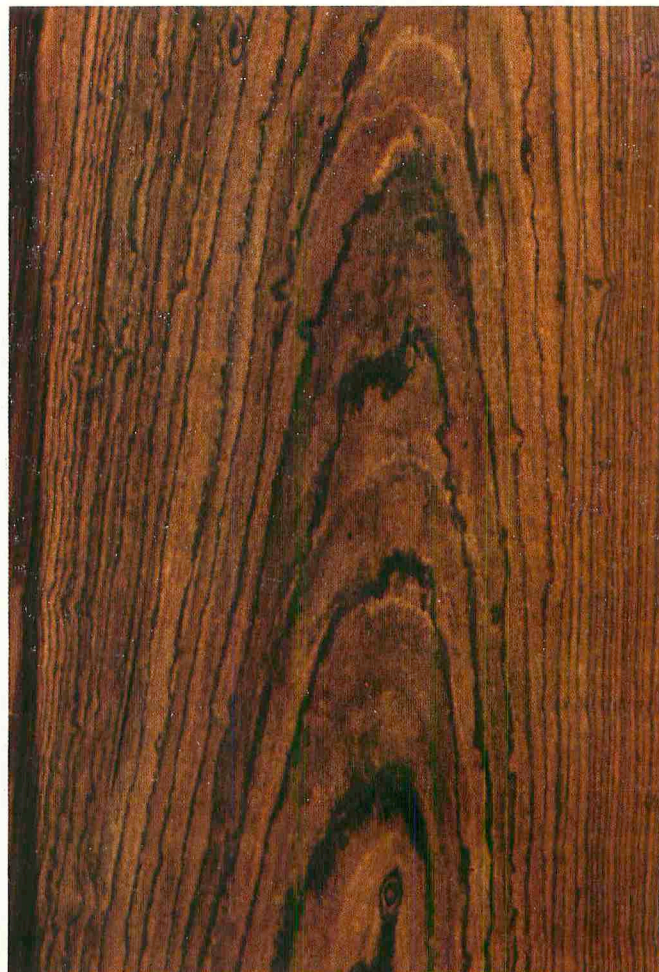
**LOCUST, HONEY** (*Gleditsia triacanthos*)

(See Photo 133)

*Source*: Eastern United States. Limited quantities of lumber and veneer are produced.



133 — LOCUST, HONEY (Plain Sliced)



134 — LOURO PRETO (Plain Sliced)



**LOURO PRETO** (*Cordia* spp.)

Canaletta, Canaleta, Cordia, Lauro pardo  
(See Photo 134)

Source: Brazil, Venezuela, Mexico. Color: Reddish-brown with contrast. Pattern: Cathedral and contrasty wild. Characteristics: Looks like Brazilian Rosewood after red toner has been applied. Uses: Fine face veneers. Availability: Readily available. Price Range: Average.

**MACAWOOD** (*Platymiscium*, spp.)

Brazilian "Padauk"

Source: Northern South America and Central America. Color: Reddish-brown. Pattern: Irregular and sometimes striped. Uses: Furniture; musical instruments; knife handles. Availability: Rare. Price Range: Valuable.

**MADORO and MINDORO**

Source: Brazil. Color: Tan with darker brown stripes. Pattern: Brown stripes and often with Bee's Wing figure. Availability: Rare. Price Range: Average.

**MADRONE BURL** (*Arbutus menziesii*)

Madrona, Madrono

Source: Pacific Coast from British Columbia into Mexico. Color: Reddish-brown. Pattern: Close grain. Pronounced medullary rays. Characteristics: Hard. Uses: Usually produced as blocks for making pipes. Availability: Rare as veneer (rotary cut burl). Price Range: Valuable.

**MAGNOLIA** (*Magnolia* spp.)

Also see Cucumbertree

Source: Asia and Central America. Color: Pale yellow to brown. Pattern: Fairly distinct. Characteristics: Fine even texture. Uses: Framing, packaging, interior parts of furniture, some veneer. Availability: Limited. Price Range: Average.

**MAHOGANY**

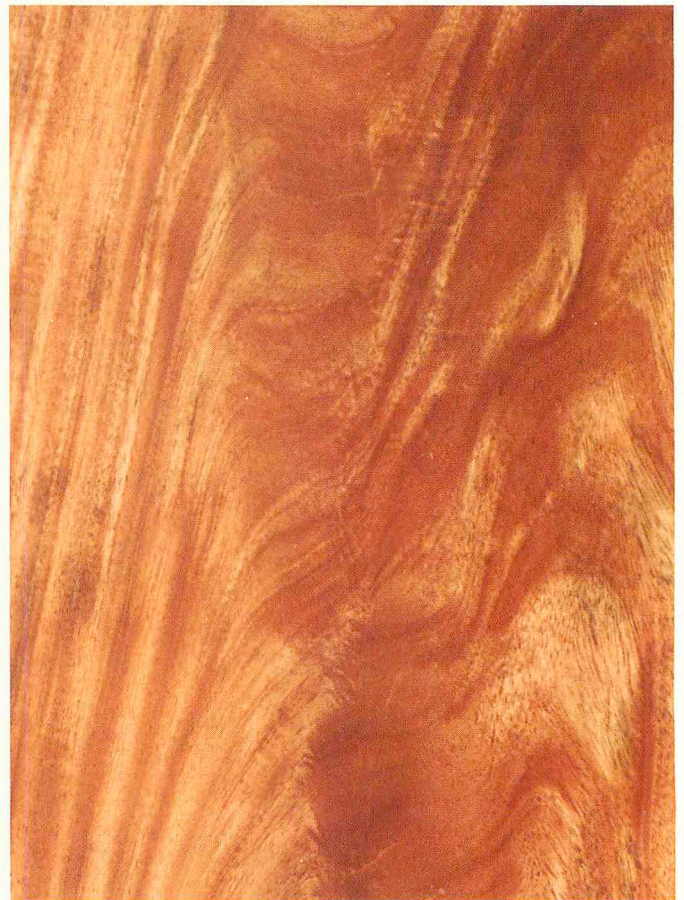
An often misused name, applied to many woods not of the Mahogany family. The three authentic commercial species of Mahogany are *Swietenia mahagani*, *Swietenia macrophylla*, and *Khaya ivorensis*. (All true Mahoganies are the Meliaceae family, genera *Swietenia* or *Khaya*.) Their descriptions follow. (See Photos 135, 136, 137, 138, 139).

**1. MAHOGANY, AFRICAN** (*Khaya ivorensis*)

Source: Africa (Ivory Coast, Gold Coast, French Cameroen, Cape Lopez, Nigeria). Color: Light pink to reddish-brown and tannish-brown. Pattern: Although pores are distributed, this wood produces a very distinct, pleasing grain. The most lavishly figured mahogany offered in plain stripe, broken stripe, mottle, fiddleback, fine crotches and faux swirl. Characteristics: Available in great lengths and widths; milder textured with slightly larger pores than other Mahogany species; relatively hard; works well; highly lustrous; polishes well; durable. Uses: Interiors; furniture; accessories and art objects; boats, etc. Availability: Readily available as veneer (all cutting methods used); readily available as lumber. Price Range: Average; for highly figured veneer, valuable.

**2. MAHOGANY, CUBAN** (*Swietenia mahagoni*)

135 — MAHOGANY, AFRICAN (Crotch)



136 — MAHOGANY, AFRICAN (Swirl)



West Indian Mahogany, Jamaica Mahogany, Puerto Rico Mahogany, etc.

*Source:* Cuba (formerly also from throughout West Indies, principally Santo Domingo (Dominican Republic). *Color:* Light red or yellowish-tan when cut, darkens rapidly to deep, rich golden-brown or brown-red; exceptionally fine colors. *Pattern:* Highly figured; mottle; fiddle-back, crotches plus plain stripes. *Characteristics:* Heavier and harder than other mahoganies; wears exceptionally well; extremely durable; close-grained; takes excellent finish; ideal turnery wood; takes an exceptionally smooth surface and fine silky texture; works well; high golden lustre; good strength and bending properties. *Uses:* Fine cabinetry. *Availability:* Limited as veneer (plain sliced and half-round). (The export of this species from Cuba was banned in 1946. It is quite scarce and not commercially available from Haiti, Jamaica and Dominican Republic.) *Price Range:* Valuable.

### 3. MAHOGANY, TROPICAL AMERICAN

(*Swietenia macrophylla*)

Peruvian, Brazilian, Tabasco, Honduras, Mexican, Guatemalan, Nicaraguan, Jamaica (Brazilian marketed as Amazon Mahogany).

*Source:* Mexico, Brazil, Peru and Central America (especially Honduras). *Color:* Varies from a light reddish or yellowish-brown to a rich, dark red, depending upon country of origin and situation. Most supplies tend to be yellowish-tan, changing on brief exposure to rich, golden brown. *Pattern:* A considerable variety of figures, similar

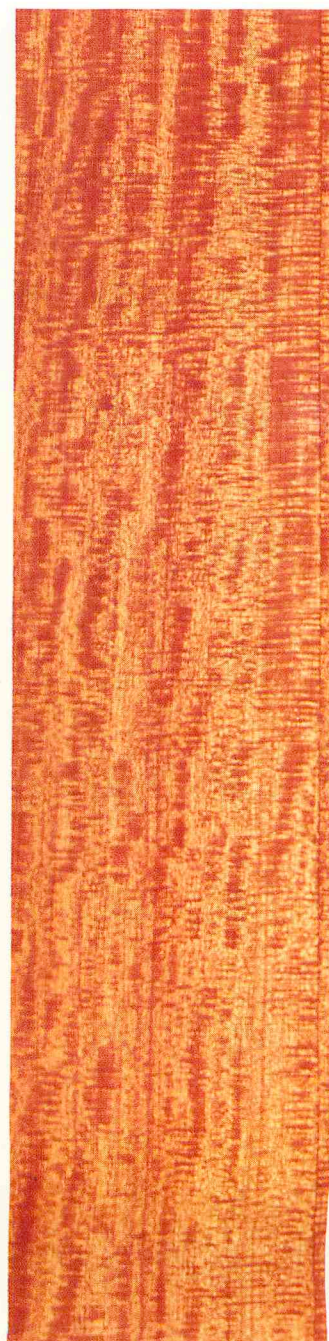
to African Mahogany except crotches are not readily available. Straighter grain generally. Location influences appearance also. *Characteristics:* Lighter and softer than Cuban; mostly straight-grained but even when interlocked is exceptionally stable; more mellow texture than Cuban (West Indian); extremely good strength properties; works well; stains and finishes well; durable and decay-resistant; Central America produces more figured logs for fancy veneers. *Uses:* Furniture; paneling; fine joinery; boats and ships; pattern-making; exterior uses. *Availability:* Readily available—Central American in veneer (plain and quarter sliced, half-round); readily available as lumber. Brazilian and Peruvian, readily available. *Price Range:* Average.



137 — MAHOGANY, AFRICAN (Plain Sliced)



138 — MAHOGANY, AFRICAN  
(Quartered — Ribbon Striped)



139 — MAHOGANY, AFRICAN  
(Quartered — Mottled)



**MAHOGANY, BRAZILIAN** (*Swietenia spp.*)

See Mahogany, Tropical American. This name has also been incorrectly used for several Brazilian woods such as Andiroba and Jequitiba.

**MAHOGANY, GUATEMALAN** (*Swietenia spp.*)

See Mahogany, Tropical American

**MAHOGANY, HONDURAS** (*Swietenia spp.*)

See Mahogany, Tropical American

**MAHOGANY, JAMAICA** (*Swietenia spp.*)

See Mahogany, Cuban

**MAHOGANY, MEXICAN** (*Swietenia spp.*)

See Mahogany, Tropical American

**MAHOGANY, NICARAGUAN** (*Swietenia spp.*)

See Mahogany, Tropical American

**MAHOGANY, PERUVIAN** (*Swietenia spp.*)

See Mahogany, Tropical American

**MAHOGANY, PHILIPPINE** (*Shorea spp.*,  
*Pentacme spp.*)

See Philippine Hardwoods, Lauan

**MAHOGANY, TABASCO** (*Swietenia spp.*)

See Mahogany, Tropical American

**MAI DOU** (*Pterocarpus pedatus*)

Madou, Maidou, Mai Padu, "Falsa Amboyna wood burl."

*Source:* French Indo-China. *Color:* Scarlet and pale straw. *Pattern:* Satiny, ribbon stripe; burls; crotches; closely resembles Burmese Padauk and Amboyna. *Uses:* Decorative interiors and furnishings. *Availability:* Rare as veneer. *Price Range:* Valuable.

**MAKORÉ** (*Tieghemella heckelii*)

African "Cherry", Baku, "Cherry Mahogany"

*Source:* African Gold Coast, Nigeria. *Color:* Pinkish-brown to blood red or red brown. *Pattern:* Somewhat similar to a close-grained mahogany but with dark red growth lines and smaller pores as found in cherry. Some logs are straight-grained and show figure like African Mahogany stripes; others have a striking, checkered figure sometimes streaked with darker color. *Characteristics:* Fine textured than true mahoganies, and denser, harder and heavier; tough; durable; stiff; large sizes; strong; gummy and lustrous; glues well; works fairly easy. *Uses:* Furniture and cabinetry. *Availability:* Readily available as veneer (quarter sliced). *Price Range:* Average.

**MANSONIA** (*Mansonia altissima*)

Aprono, Apruno, Ofun, Opruno, Bété, "African Black Walnut" (misleading)

*Source:* African West Coast (Nigeria, Gold Coast, Ivory Coast). *Color:* Somewhat similar to walnut (whitish sapwood, yellowish-brown to greyish and purplish-brown heartwood) in darker varieties, but color varies considerable. *Characteristics:* Usually straight-grained; smooth; fine-textured; heartwood decay-resistant; harder than American



140 — MAPLE (Birdseye — Half-Round)



141 — MAPLE (Half-Round — Plain)



Walnut, similar in strength and about equal to walnut in other categories; works easily; glues well; finishes excellently. *Availability:* Limited as veneer (quarter sliced). *Price Range:* Average.

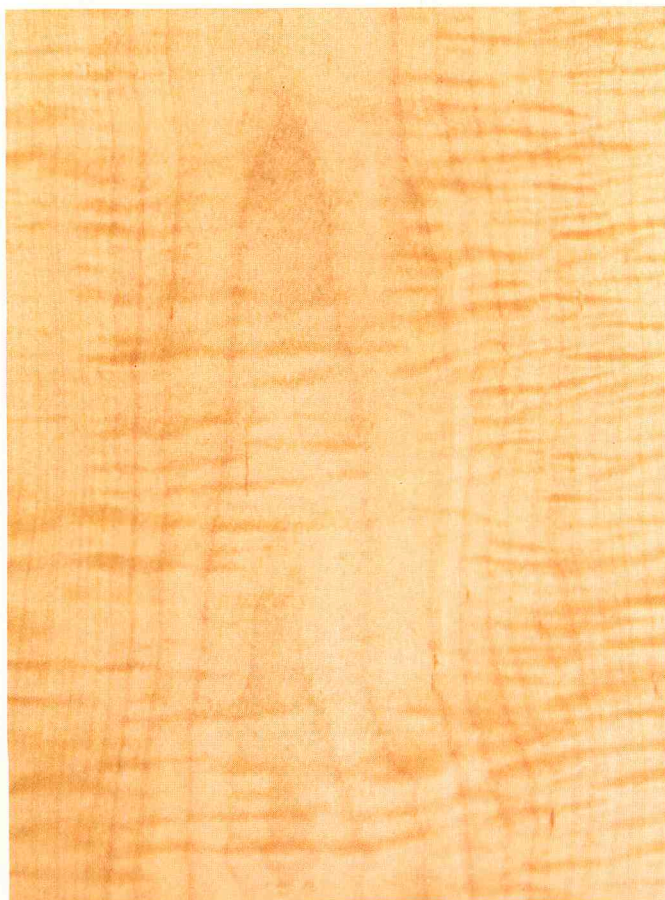
**MAPLE, AUSTRALIAN** (*Flindersia brayleyana*, also from *Flindersia chatawaiana*, *Flindersia pimenteliana*) "Maple Silkwood", "Queensland Maple", Red "Beech", Warri. (Not of the Maple (*Acer*) family).

*Source:* Australia (Queensland, New South Wales). *Color:* Light red similar to African Mahogany. *Pattern:* Wavy; curly; plain to stripe—refined character. *Characteristics:* Medium, uniform texture; often interlocked grain; silken lustre; light weight; works easily; stains readily; polishes excellently; tough; moderately elastic but poor bending strength; glues easily; hard, close grain; small, scarce pores. *Uses:* One of the finest Australian cabinetwoods used for fine furniture; decorative interiors; boat interiors, planking and rudders; propellers. *Availability:* Rare as veneer (quarter sliced, half-round). *Price Range:* Valuable.

**MAPLE, BIRDS EYE** (*Acer saccharum*)  
See Maple, Hard (See Photo 140)

**MAPLE, CURLY** (*Acer saccharum*)  
See Maple, Hard

**MAPLE, FIDDLEBACK** (*Acer saccharum*)  
See Maple, Hard



142 — MAPLE (Plain Sliced — Figured)

**MAPLE, HARD** (*Acer saccharum*)

Birds Eye Maple, Curly Maple, Fiddleback Maple, Northern Maple, Rock Maple, Sugar Maple, Black Maple (See Photos 141-142)

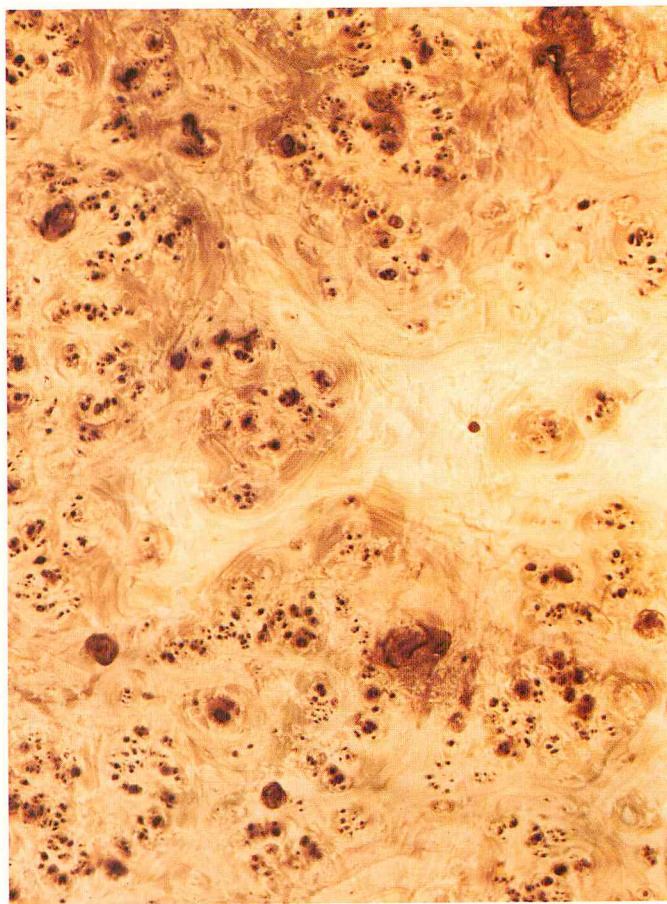
*Source:* Lake States, Appalachians, Northwest United States; Canada. *Color:* Cream to light reddish-brown heartwood; thin white sapwood tinged slightly with reddish-brown. *Pattern:* Usually straight-grained; sometimes found highly figured with curly, fiddleback, blistered, quilted, Birds Eye or burl grain, scattered over entire tree or in irregular stripes and patches. *Characteristics:* Heavy; hard; strong; close-grained; tough; stiff; uniform texture. Excellent resistance to abrasion and indentation. *Uses:* Furniture; interiors; fixtures; flooring, woodenware; cutting surfaces; bakery paddles and other industrial uses; school furniture; decorative inlays and overlays. *Availability:* Plain maple—readily available as veneer (plain sliced, half-round, full rotary); Figured maple (including birds eye, butts, etc.)—limited as veneer (all cutting methods used). *Price Range:* Plain maple—average; Figured maple—valuable.

**1. MAPLE, BLACK** (*Acer nigrum*)  
Mixed with Sugar Maple and sold as veneer and lumber

**2. MAPLE, SUGAR**  
See Maple, Hard

**MAPLE, SOFT**

**1. MAPLE, RED** (*Acer rubrum*)



143 — MAPPA (Burl — Half-Round)



## Selection guide to a world of fine hardwoods . . .

Normally not produced in commercial quantities of veneer. Sold along with Silver Maple and Soft Maple lumber.

### **2. MAPLE, SILVER** (*Acer saccharinum*)

Soft Maple

Same general characteristics as Hard Maple but not nearly as hard or strong. Usually shows considerable dark (mineral) streaks. *Availability*: Readily available as both veneer and lumber. *Price Range*: Inexpensive.

### **MAPPA BURL** (*Populus nigra*)

Mapi Burl (See Photo 143)

*Source*: Central Europe. *Color*: White to brownish-green. *Pattern*: Burley with little reddish spots usually quite sound. *Characteristics*: Typical of burls. *Uses*: Face veneer for furniture. *Availability*: Readily available. *Price Range*: Average.

### **MORADO** (*Peltogyne spp.*) See Amaranth

### **MOVINGUI** (*Distemonanthus benthamianus*)

Anyaran, Ayan, Nigerian "Satinwood"

*Source*: West Africa, Nigeria. *Color*: Light yellow. *Pattern*: Like satinwood. Fine textured, very lustrous surface. *Characteristics*: Grain often interlocking; moderately hard and heavy. *Uses*: Furniture; cabinet work; turnery; ships' fittings; flooring; interior decoration. *Availability*: Rare as veneer

(quarter sliced). *Price Range*: Average. Not commonly produced but could be cut in volume.

### **MOZAMBIQUE** (*Guibourtia ehie*) See Amazaque

### **MUNINGA** (*Pterocarpus angolensis*) See Padauk, Angola

### **MYRTLE** (*Umbellularia californica*)

Myrtle Tree, Baytree, California "Laurel", Oregon Myrtle, Pepperwood. At times called Acacia but no relation.

*Source*: West Coast of United States, especially Southern Oregon and Northern California. *Color*: Golden-brown and yellowish-green. Wide range from light to dark. *Pattern*: Mixture of plain wood, mottle, cluster, blistered, stump and burl figure with a scattering of dark purple blotches. *Characteristics*: Hard; strong; pores the size and distribution of walnut. A magnificent, highly figured veneer. *Uses*: Decorative panels for architectural and furniture; novelties. *Availability*: Readily available as veneer (half-round); limited as lumber. *Price Range*: Valuable.

### **MYRTLE, BURL**

Refers to veneer cut from burl of Myrtle tree. Sometimes called Acacia Burl. (See Photo 144)

### **NARRA** (*Pterocarpus indicus*, *Pterocarpus echinatus*)

Angsena, Sena, highly figured wood of this species is sold as Amboyna Burl.



144 — MYRTLE (Burl — Half-Round)



145 — OAK, RED (Plain Sliced)



*Source:* Dutch East Indies, Philippines. *Color:* Rose to deep red. Some are golden yellow. *Pattern:* Distinct grain character; some ripple. *Characteristics:* Heavy and hard; durable. *Uses:* High-grade furniture; interior finish of ships and vehicles. *Availability:* Limited as veneer (quarter sliced). *Price Range:* Valuable.

**NEW GUINEA WOOD** (*Dracontomelum magiferum*)

Guinea Wood, Guinea "Walnut"

*Source:* New Guinea and Philippines. *Color:* Similar to Paldao. *Pattern:* Runs heavily to contrasting stripes—some mottle. *Characteristics:* A rather hard cabinetwood, very much like Paldao. *Uses:* Architectural panels and furniture. *Availability:* Rare as veneer (quarter sliced). *Price Range:* Valuable.

**NOGAL** (*Juglans neotropica* and *Juglans olanchana*)

Tropical Walnut

*Source:* Eastern slope of Andes and northern Central America. *Color:* Darker than *Juglans nigra* with streaks of lighter color in heartwood. *Pattern:* Straight grained, coarse texture. *Characteristics:* Difficult to dry as both lumber and veneer, thicker lumber prone to collapse and honeycomb. Tension wood and compression failures frequently observed. *Uses:* More study needed. *Availability:* Readily available. *Price Range:* Average.

**NYSSA** (*Nyssa aquatica*, *Nyssa sylvatica*)

See Black Gum, Tupelo Gum



146 — OAK, WHITE (Plain Sliced)

**OAK, AMERICAN** (*Quercus* spp.)

(Includes several species from the Red Oak and White Oak groups.) Except for source and color, Red Oak and White Oak, the two leading American species, are very similar. Characteristics they have in common are:

*Pattern:* Quarter sliced and sawn oak has a striking "flake" pattern caused by extremely large and wide rays that reflect light. Plain sliced and sawn oak has an attractive figure of stripes and leafy grain caused by the distinct layers of springwood and summerwood and the large pores, especially concentrated in the springwood. Rift-cut oak has a fine pin-stripe. Rotary cut oak has a distinct watery figure with great contrast. *Characteristics:* A heavy, ring-porous hardwood with larger, more prominent pores in the springwood than summerwood; very strong and very hard; stiff and heavy; durable under exposure; great wear-resistance; holds nails and screws well. Red and white oak look very similar when finished and because of its large pores, oak takes a great variety of fine filled or textured finishes. *Uses:* Flooring (both solid and plywood pieces); furniture; paneling; and general construction; shipbuilding; display and store fixtures; handles; boxes and various industrial uses. *Availability:* Readily available as veneer (plain sliced, quarter sliced, rift cut and half-round); readily available as lumber. *Price Range:* Average.

**1. OAK, RED** (*Quercus rubra*)

(See Photo 145)



147 OAK, WHITE (Rift Cut)



**Source:** Throughout the eastern United States; especially in the Appalachians, Ohio, Kentucky. **Color:** Slightly redder tinge than white oak (though hard for an untrained eye to tell), and is more uniform in color. **Pattern:** Flake figure less prominent than white oak's. **Characteristics:** Slightly coarser grain, with large, rounded, open pores. A little easier to finish than white oak, though both are excellent. **Uses:** All the same purposes as white oak except water-tight containers.

## 2. OAK, WHITE (*Quercus alba*)

(See Photos 146, 147)

**Source:** Entire eastern United States, especially produced in the Central States and down through the Appalachian region. **Color:** From light brown with a greyish tinge in the heartwood to shades of ochre in the sapwood. **Pattern:** More pronounced and longer rays than red oak, and more frequently rift-sawn for the comb-grain, pin-striped figure than red oak. Occasionally crotches, swirls and burls. **Characteristics:** Pores are angular and very numerous and filled with a glistening substance called tyloses, which makes this wood especially suitable for water-tight containers (barrel staves) and where water-resistance is required. Tannic acid in the wood protects it from fungi and insects. Closer grained than red oak. **Uses:** Nearly all common uses of hardwoods, and especially popular where strength and durability are required. Also for water-tight or water-resistant purposes.



148 — OAK, ENGLISH BROWN (*Quarter Sliced*)

## OAK, AUSTRALIAN SILKY (*Cardwellia sublimis*)

See Lacewood

## OAK, ENGLISH BROWN (*Quercus robur*, *Quercus petraea*)

European Oak, Pollard Oak (See Photo 148)

**Source:** England. **Color:** Light tan to deep brown. **Pattern:** Black spots, sometimes creating an effect much like tortoise shell. **Characteristics:** Noticeable figure and grain character. **Uses:** Architectural woodwork; some in fine furniture. **Availability:** Limited as veneer (quarter sliced). **Price Range:** Valuable.

## OAK, EUROPEAN (*Quercus robur*, *Quercus petraea*)

European Oak is the trade name given Oak from various countries, all botanically the same. Variations in color are due to differences in climate and soil. The wood is generally named from its origin and is known as Russian, German, Hungarian, French or Austrian Oak.

## OAK, POLLARD (*Quercus* spp.)

See Oak, English Brown

## OAK, TASMANIAN (*Eucalyptus* spp.) See Eucalyptus

## OBECHE (*Triplochiton scleroxylon*) See Ayous

## OFFRAM (*Terminalia superba*) See Limba



149 — ORIENTALWOOD (*Quarter Sliced*)



**OHIA** (*Celtis* spp.) See *Celtis*

**OJOCHE** (*Brosimum alicastrum*) See Capomo

**OKOUMÉ** (*Aucoumea klaineana*) See Gaboon

**OLIVE, EUROPEAN** (*Olea europaea*)

Olivewood

*Source:* A native of southern Europe. *Color:* Yellowish-brown. *Pattern:* Contrasting marble-like veins. *Uses:* Turnery, novelties. *Availability:* Rare. *Price Range:* Valuable.

**ORIENTALWOOD** (*Endiandra palmerstoni*)

Australian "Laurel", Australian "Walnut", Oriental

"Walnut"; formerly "Queensland Walnut". (See Photo 149)

*Source:* Australia. *Color:* Pinkish-gray to brown. *Pattern:* Somewhat like walnut but with dark stripes. *Characteristics:* Medium weight; turns and polishes well; firm to hard. *Uses:* Furniture; cabinetmaking. *Availability:* Limited as veneer (quarter sliced); limited as lumber. *Price Range:* Valuable. Not commonly produced, but could be cut in volume.

**OSAGE-ORANGE** (*Maclura pomifera*)

Bowwood

*Source:* Southeastern United States. *Color:* Greenish-yellow.

*Pattern:* Seldom cut into lumber or veneer. *Characteristics:*

A very close-grained wood somewhat like locust. Very hard, heavy, strong and resilient; comparatively inert to atmo-

sphere changes. *Uses:* Wheels; archery bows; insulator pins; sucker-rod guides; dyewood; turnings and decorative novelties. *Availability:* Rare. *Price Range:* Average.

**OVENKOL'** (*Guibourtia ehie*)

See Amazaque

**PADAUK, AFRICAN** (*Pterocarpus soyauxii*)

Corail, Vermilion

*Source:* African West Coast. *Color:* Golden red. *Pattern:* Striped. *Uses:* General cabinetry. *Availability:* Rare as veneer (quarter sliced); limited as lumber. *Price Range:* Valuable.

**PADAUK, ANDAMAN** (*Pterocarpus dalbergioides*)

Vermilion, "Andaman Redwood"

*Source:* Andaman Islands. *Color:* Golden brown to violet red; much variation. *Pattern:* Often handsome narrow stripes, with dark-colored veins. *Characteristics:* Alternate layers of hard and soft grain; pores are irregular in size and position, occasionally seen in duplicate and triplicate. *Uses:* Fine woodwork and furniture. *Availability:* Rare as veneer (quarter sliced). *Price Range:* Valuable.

**PADAUK, ANGOLA** (*Pterocarpus angolensis*)

Muninga

*Source:* East Africa. *Color:* Sapwood is cream colored; heartwood is golden brown to dark brown with streaks of red or yellow. *Characteristics:* Very stable and durable,



150 — PADAUK, BURMA (Quarter Sliced)



151 — PALDAO (Quarter Sliced — Two Piece)



## Selection guide to a world of fine hardwoods . . .

medium hard. *Uses:* Wall paneling, some furniture. *Availability:* Limited as veneer; rare as lumber. *Price Range:* Valuable.

### **PADAUK, BURMA** (*Pterocarpus macrocarpus*)

Vermilion (See Photo 150)

*Source:* Burma. *Color:* Yellow and gold-red with brown. *Pattern:* Interlocked grain, producing cross figure on quartered section. *Characteristics:* Hard firm texture; seasons well; pores are very irregular in size. *Availability:* Rare as veneer (quarter sliced); limited as lumber. *Price Range:* Valuable.

### **PALDAO** (*Dracontomelum dao*)

Dao (See Photo 151)

*Source:* Philippines. *Color:* Gray to reddish-brown. *Pattern:* Varied grain effects usually with irregular stripes, some occasionally very dark. Occasional crotch or swirl. *Characteristics:* Pores are large, partially plugged; fairly hard. *Uses:* Architectural woodwork and furniture. *Availability:* Limited as veneer (quarter sliced, half-round); limited as lumber. *Price Range:* Average.

### **PAU FERRO** (*Machaerium* spp.)

Caviuna (See Photo 152)

*Source:* Central America, Northern South America. *Color:* Dark purple to golden-brown. *Pattern:* Varies from cathedral to swirly, occasionally figured. *Characteristics:* Texture coarse to fine, working properties fair to excellent. *Uses:* Veneer—for furniture and interiors. *Availability:* Limited. *Price Range:* Valuable.



152 — PAU FERRO (Plain Sliced)

### **PEARWOOD** (*Pyrus communis*)

Pear Tree, European Pearwood

*Source:* United States, Germany and France. *Color:* Rosy cream. *Pattern:* Moderately distinct leafy grain, sometimes with mottle figure. *Characteristics:* Fine, close grain; pores are very fine, indistinct. *Uses:* Marquetry; furniture; mechanical and drawing instruments; saw handles and rulers. *Availability:* Rare as veneer (plain sliced). *Price Range:* Valuable.

### **PECAN** (*Carya illinoensis*)

Pecky Pecan (See Photos 153, 154)

*Source:* Mississippi River Valley to northern Illinois, central to southeast Great Plain states. *Color:* Heartwood—reddish-brown with occasional darker streaks; sapwood—creamy white. *Pattern:* Quite distinct, because of pores that are larger than hickory or walnut, two species that belong to the same family. *Characteristics:* Close grained; hard; very heavy; and strong. *Uses:* Furniture and wall paneling. *Availability:* Readily available as veneer; readily available as lumber. *Price Range:* Average.

### **PEROBA, RED** (*Aspidosperma* spp.)

Peroba Rosa, Palo Rosa

*Source:* Brazil. *Color:* Pale rose with dark streaks. *Pattern:* Dark streaks. Surface is not lustrous, usually flat sliced. *Characteristics:* Very durable; fairly hard and heavy; fine and even texture. *Availability:* Rare as veneer; limited as lumber. *Price Range:* Average.

### **PEROBA, WHITE** (*Paratecoma peroba*)



153 — PECAN (Plain Sliced — Pecky)



Peroba Amarella, Peroba Branca, Ipé Peroba  
**Source:** Brazil. **Color:** Olive to golden. **Pattern:** Fine in grain.  
**Characteristics:** Not difficult to work and reported to be stronger than Teak. **Uses:** Structural work in South America and decorative woodwork and furniture when imported. **Availability:** Rare as veneer (quarter sliced). **Price Range:** Valuable.

#### **PERSIMMON** (*Diospyros virginiana*)

**Source:** United States. However, *Diospyros* is one of four genera making up the Ebony family and are found in many parts of the world in warm, temperate and tropical climates. **Color:** Light brown with darker stripes. **Pattern:** An interesting, distinct grain. **Characteristics:** A hard wood with interlocking grain. **Uses:** Veneer for furniture; lumber is used for golf club heads and shutters. **Availability:** Limited. **Price Range:** Average.

#### **PHILIPPINE HARDWOODS** (*Shorea* spp.,

*Pentacme* spp.)

See Lauans

#### **PINE, KNOTTY** (*Pinus monticola*)

(Western White or Idaho White Pine) (See Photo 155)

#### **PINE, KNOTTY** (*Pinus strobus*)

Eastern White or Northern White Pine)

**Source:** Western—Pacific Northwest; Eastern—Eastern United States, northward. **Color:** Western—cream color to light reddish-brown with yellowish-white sapwood.



154 — PECAN (Plain Sliced)

**Pattern:** Knotty. **Characteristics:** Softwood but occasionally used as cabinet wood. Light; soft; not strong; close, straight-grained. **Uses:** Used in construction and interior finish of buildings; lumber and veneer for furniture. **Availability:** Readily available as veneer (plain sliced); readily available as lumber. **Price Range:** Average.

#### **PINE, SOUTHERN YELLOW**

There are a number of species included in the group called Southern Yellow Pine. The most important are (1) Longleaf pine (*Pinus palustris*), (2) Shortleaf pine (*Pinus echinata*), (3) Loblolly pine (*Pinus taeda*), (4) Slash pine (*Pinus elliottii*). (See Photo 156)

**Source:** Eastern United States, southward. **Color:** Wide ring of yellowish-white sapwood with small reddish-brown heartwood in 2nd growth stands. Old growth stands yield wood with less sapwood. **Pattern:** Ranges clear to knotty. **Characteristics:** Heavy; strong; stiff; hard; softwoods. **Uses:** Extensively in construction, occasionally in furniture and plywood. **Availability:** Readily available as veneer (plain sliced); readily available as lumber. **Price Range:** Average.

#### **PLANETREE, AMERICAN** (*Platanus occidentalis*)

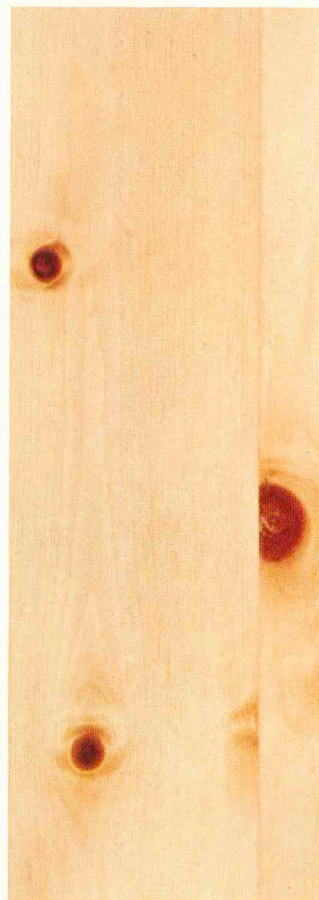
See Sycamore, American

#### **POLLARD OAK** (*Quercus* spp.)

See Oak, English Brown

#### **POPLAR, BALSAM** (*Populus balsamifera*)

Tacamahac Poplar, Balm of Gilead. One of many species



155 — PINE, WHITE  
(Plain Sliced — Knotty)



156 — PINE, SOUTHERN  
YELLOW (Plain Sliced)



## Selection guide to a world of fine hardwoods . . .

of *Populus*. Ranges in northern United States and Canada not to be confused with Yellow Poplar or Tuliptree veneer or lumber of commerce which is *Liriodendron tulipifera*.

### **POPLAR, BAY** (*Nyssa aquatica*)

See Gum, Tupelo

### **POPLAR, YELLOW** (*Liriodendron tulipifera*)

See Yellowpoplar

**POPPLE** (*Populus tremuloides*—Trembling or Quaking Aspen); (*Populus grandidentata*—Big Tooth Aspen)  
Northern Aspen

Source: Lake States, Rocky Mountains, Pacific Northwest, most of Canada. Color: Whitish to light greyish-brown—no clear distinction between heartwood and sapwood. Pattern: Straight to wooly; texture fine and even. Characteristics: Medium light; soft; moderately weak; fuzzy; low durability. Uses: Pulpwood; excelsior; lumber; core stock and other veneer. Availability: Readily available as lumber; rare as veneer. Price Range: Inexpensive.

### **PRIMAVERA** (*Cybistax donnell-smithii*)

Durango, Palo Blanco, San Juan. Sometimes misnamed "White Mahogany". (See Photo 157)

Source: From Central Mexico, south through Guatemala and Honduras into Salvador. (Other species of *Tabebuia* found in northern South America.) Color: Yellow-white to yellow-brown. Pattern: Straight grain. Characteristics: Odor-

less and tasteless; medium to coarse textured; straight to somewhat striped grained; moderately light in weight. Uses: A fine, general-use cabinetwood. Availability: Limited as veneer (quarter sliced); limited as lumber. Price Range: Average.

### **PURPLEHEART** (*Peltogyne* spp.)

See Amaranth

### **QUEENSLAND "MAPLE"** (*Flindersia* spp.)

See Maple, Australian

### **RAMIN** (*Gony stylus* spp.)

Melawis

Source: Indonesia, Sarawak, Western Malaysia. Color: White to pale straw color, heartwood and sapwood not readily distinguished. Pattern: Straight grained to shallowly interlocked. Characteristics: Medium weight; unpleasant to handle; not durable for out of doors. Uses: Furniture; moldings; toys; handles. Availability: Limited. Price Range: Average.

### **REDCEDAR** (*Juniperus virginiana*)

See Cedar, Aromatic Red

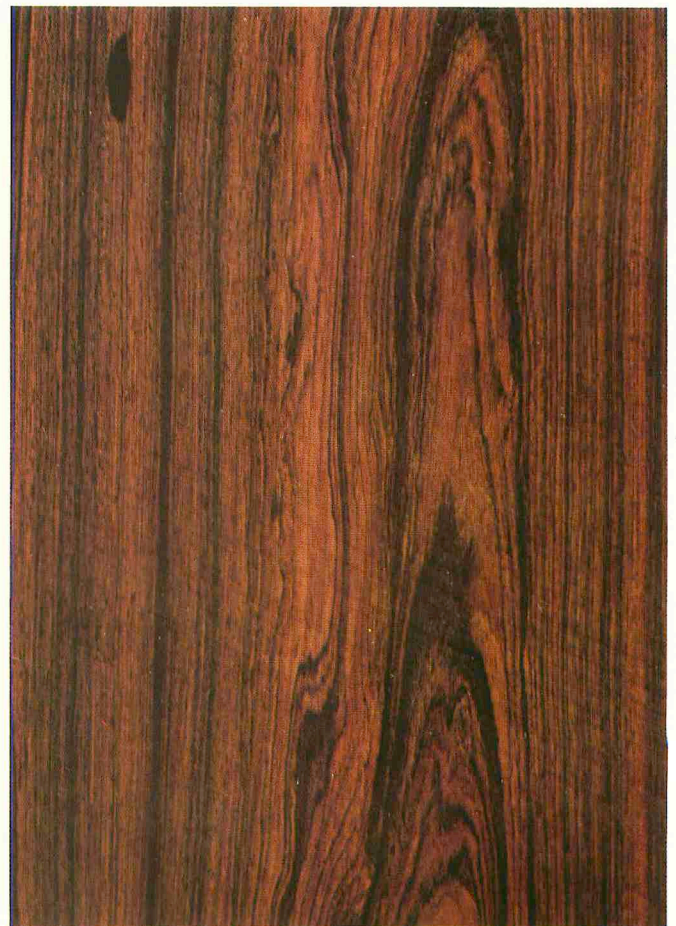
### **REDWOOD BURL** (*Sequoia sempervirens*)

Big Tree

Source: California—Northern coastal region. Color: Pink to deep red heartwood. Pattern: Clusters of eyes (burls).



157 — PRIMAVERA (Plain Sliced)



158 — ROSEWOOD, BRAZILIAN (Plain Sliced)



*Characteristics:* Soft; light; close-grained; heartwood exceptionally durable; easily worked, except somewhat splintery. *Uses:* Decorative areas of cabinetry. *Availability:* Rare as veneer (rotary cut); readily available as lumber. *Price Range:* Valuable as burl veneer.

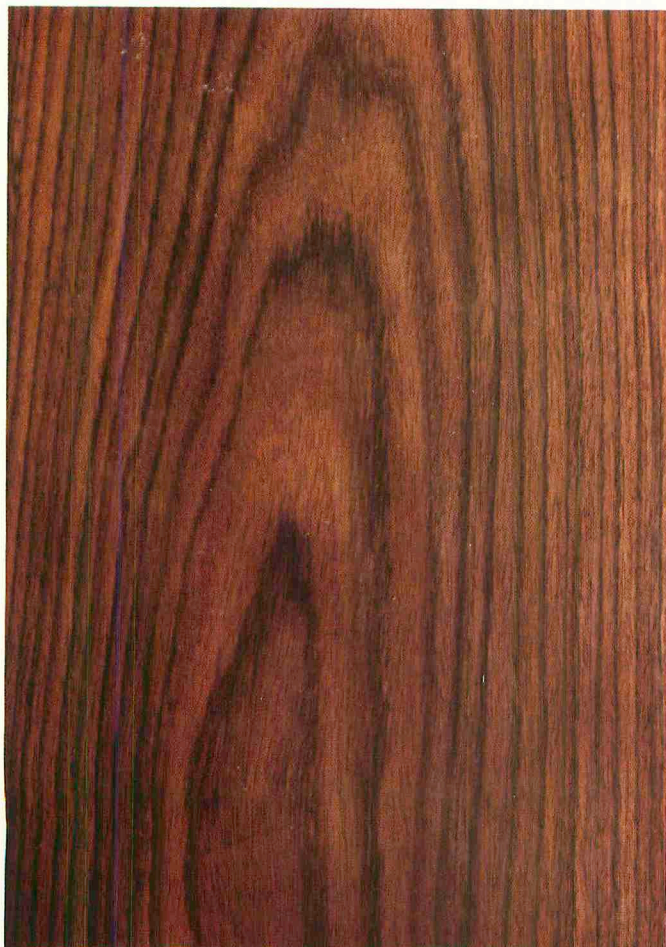
**“ROSEWOOD” AFRICAN** (*Guibourtia demeusii*)  
See Bubinga

**ROSEWOOD, BRAZILIAN** (*Dalbergia nigra*)  
Jacaranda, Rio Rosewood, Bahia Rosewood  
(See Photo 158)

*Source:* Brazil. *Color:* Various shades of dark brown—chocolate to violet; conspicuous black streaks. *Pattern:* Streaks of dark brown or black pigment lines. *Characteristics:* Rather large pores are exceedingly irregular both in size and position. *Uses:* Furniture; pianos; wall paneling. *Availability:* Limited as veneer; readily available as lumber. *Price Range:* Valuable.

**ROSEWOOD, EAST INDIAN** (*Dalbergia latifolia*)  
Bombay Rosewood, Bombay Blackwood (India),  
Malobar  
(See Photo 159)

*Source:* Southern India and Ceylon. *Color:* Dark purple to ebony; streaks of red or yellow. *Pattern:* Small to medium pores in wavy lines; exceedingly fine rays; occasionally crotches and swirls. *Characteristics:* Stand up exceptionally well under all conditions; texture is close, firm, and hard;



159 — ROSEWOOD, EAST INDIAN (Plain Sliced)

requires rather a sharp tool to secure a smooth surface; very moderate shrinkage. *Uses:* Wall paneling and fine furniture. *Availability:* Limited as veneer (quarter sliced, half-round). *Price Range:* Valuable.

**ROSEWOOD, HONDURAS** (*Dalbergia stevensonii*)  
*Source:* Central America. *Color:* Lighter than Brazilian; pinkish-brown or purplish, streaked with darker and lighter bands. *Pattern:* Streaks. *Characteristics:* Small logs; very hard and heavy; not difficult to work, but coarse textured; finishes smoothly; does not take high natural polish. *Uses:* Percussion bars for musical instruments; pianos; cutlery cabinets. *Availability:* Rare as veneer (quarter sliced); readily available as lumber. *Price Range:* Valuable.

**ROSEWOOD, MADAGASCAR** (*Dalbergia greveana*)  
Madagascar Palisander, French Rosewood, Faux Rose  
*Source:* Madagascar. *Color:* Dark to light rose-pink. *Pattern:* Pronounced lines of darker red shades. *Characteristics:* Very hard. *Availability:* Rare as veneer. *Price Range:* Valuable.

**“ROSEWOOD,” MAYAN** (*Cordia elaeagnoides*,  
*Cordia sonorae*)  
*Cordia*, Bocote, Mexican “Rosewood”.  
*Source:* Central and South America. *Color:* Greyish-brown to dark reddish-brown. *Pattern:* Flowered heart to striped. *Characteristics:* Hard, heavy, strong. *Uses:* As lumber—novelties; as veneer—cabinets, furniture, accent wood, sketch faces. *Availability:* Limited. *Price Range:* Valuable.



160 — SAPELE (Quarter Sliced — Figured)



## Selection guide to a world of fine hardwoods . . .

### **ROSEWOOD, MEXICAN** (*Cordia spp.*)

See "Rosewood", Mayan

### **ROSEWOOD, SAN DOMINGAN** (*Dalbergia grenadillo*) See Grenadillo

### **SAPELE** (*Entandrophragma cylindricum*)

Aboudikro, Aboudikrou, Sapelli, Sipo, Tiama  
(See Photo 160)

**Source:** African Ivory Coast, Nigeria. **Color:** Dark red-brown. **Pattern:** Stripe and bee's wing. **Characteristics:** Considerable variation in grain; light portions of stripes lustrous; works fairly well with hand and machine tools; tough; harder and heavier than African Mahogany. **Uses:** Veneer for furniture; cabinet work; interior decoration. **Availability:** Readily available as veneer (quarter sliced); readily available as lumber. **Price Range:** Average.

### **SASSAFRAS** (*Sassafras albidum*)

(See Photo 161)

**Source:** Most of United States east of Rockies. **Color:** Pale brown. **Pattern:** Somewhat like ash. **Characteristics:** Pores and general grain about like ash or hackberry but much softer. One of the few soft hardwoods with strong, interesting grain character. **Availability:** Limited as lumber; rare as veneer. **Price Range:** Average.

### **SATINWOOD, EAST INDIAN** (*Chloroxylon swietenia*)



161 — SASSAFRAS (Plain Sliced)

### Ceylon Satinwood (See Photo 162)

**Source:** Ceylon and southern India. **Color:** Pale gold. **Pattern:** Rippled, straight stripe; bee's wing mottled. **Characteristics:** Hard; dense; interlocking grain; inclined to check. **Uses:** Furniture. **Availability:** Limited as veneer (quarter sliced, half-round); rare as lumber. **Price Range:** Valuable.

### **SATINWOOD, CEYLON** (*Chloroxylon swietenia*)

See Satinwood, East Indian

### **SATINWOOD, SAN DOMINGAN** (*Zanthoxylum flavum*, *Fagara flava*)

West Indian Satinwood

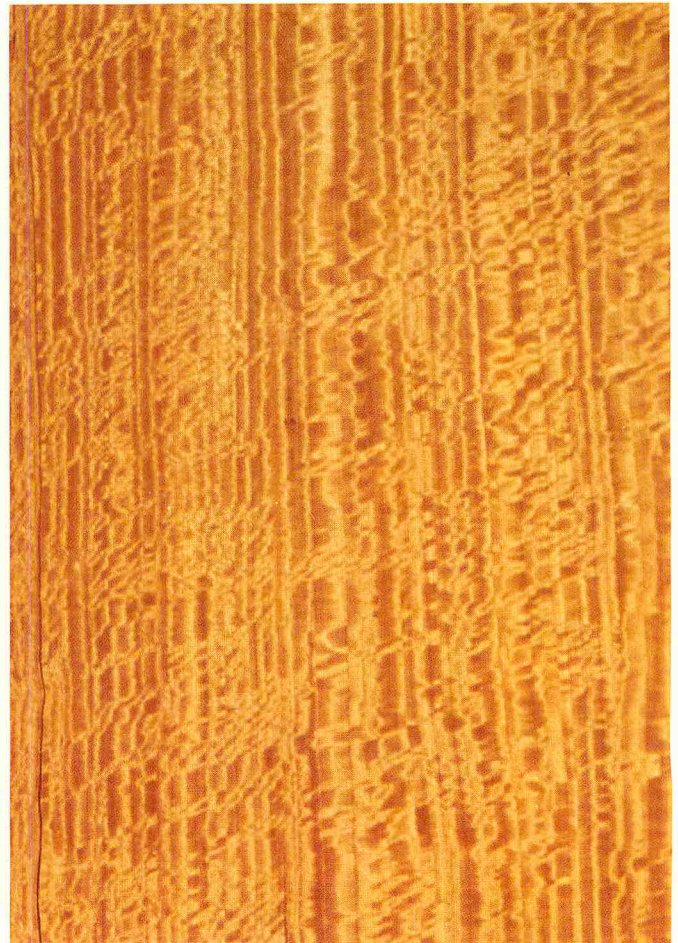
**Source:** Puerto Rico, British Honduras. **Color:** Creamy golden yellow. **Pattern:** Wavy grain. **Characteristics:** Fine grained; hard and quite heavy; works well with most tools. **Uses:** Furniture; marquetry; inlaying; turnery. **Availability:** Rare as veneer (plain sliced); readily available as lumber. **Price Range:** Valuable.

### **SILKY "OAK"** (*Cardwellia sublimis*) See Lacewood

### **SIPO** (*Entandrophragma cylindricum*) See Sapele

### **SISSO** (*Dalbergia sissoo*)

**Source:** India. **Color:** Rich, warm brown. Sometimes with dark brown streaks. **Pattern:** Striped and mottle. Rays are fine, numerous and parallel. **Characteristics:** Firm, hard and



162 — SATINWOOD, EAST INDIAN (Quartered — Figured)



compact texture; very strong and durable. *Uses:* Furniture; parquet flooring. Highly regarded in India for fine, delicate earrings. *Availability:* Rare. *Price Range:* Valuable.

**SONORA** (*Shorea philippinensis*)

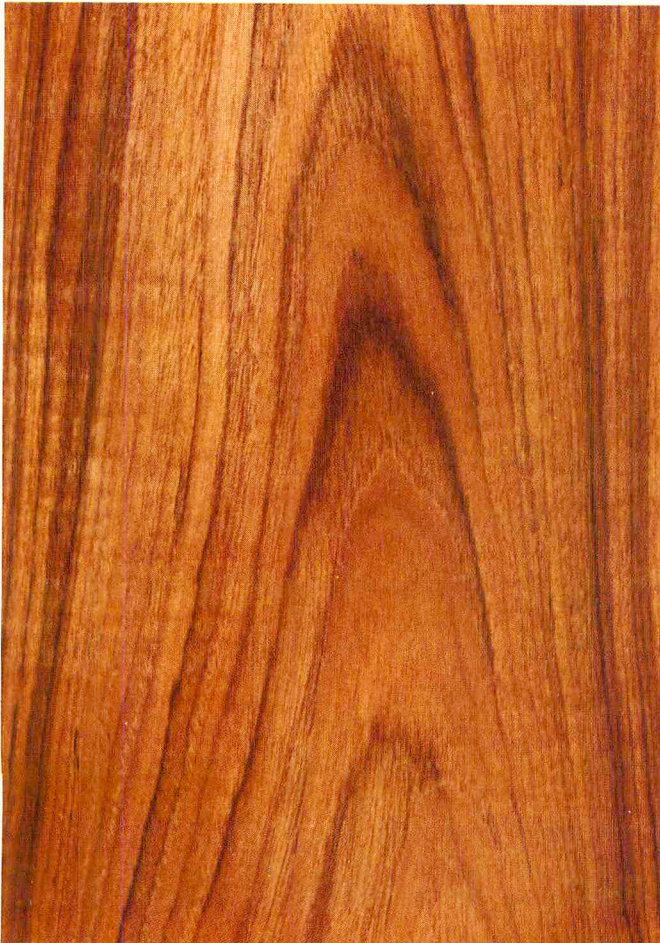
Manggasinoro, sometimes spelled Sinora, Yellow Lauan  
*Source:* Philippine Islands. *Color:* Yellow-white to pale brown. *Pattern:* Medium fine texture with grain-cross like almon. *Characteristics:* Hard and heavy. *Availability:* Readily available as veneer (quarter sliced). *Price Range:* Average.

**SUCUPIRA** (*Bowdichia spp.*)

Acapa, Alcornoque, Amoteak, Aramatia, Sapupira, Black Sucupira  
*Source:* Brazil and Venezuela. *Color:* Deep chocolate brown. Veneer lustrous; sapwood nearly white. *Pattern:* Conspicuous fine stripes of lighter brown. *Characteristics:* Very dense; hard and heavy; often wavy line; coarse texture. *Uses:* Used by natives for structural purposes. *Availability:* Rare. *Price Range:* Inexpensive.

**SYCAMORE, AMERICAN** (*Platanus occidentalis*)

Buttonwood, American Planetree  
*Source:* Maine to Central West southward. *Color:* Pale reddish-brown. *Pattern:* Flaky on quartered grain due to conspicuous, wide rays. *Characteristics:* Grain is tough, elastic and hard. *Uses:* Lumber often used as drawer sides. *Availability:* Readily available as veneer (quarter sliced, half-round), although not commonly cut; readily available as lumber. *Price Range:* Inexpensive.



163 — TEAK (Half-Round)

**SYCAMORE, ENGLISH** (*Acer pseudoplatanus*)  
See Harewood

**TAMO** (*Fraxinus sieboldiana*) See Ash, Japanese

**“TEAK”, AFRICAN** (*Chlorophora excelsa*)  
See Iroko

**TEAK** (*Tectona grandis*)

Burma Teak, Genuine Teak, Rangoon Teak  
(See Photo 163)  
*Source:* Burma, Java, East India, Thailand. *Color:* Tawny yellow to dark brown, often with lighter streaks. *Pattern:* A great deal like walnut, sometimes mottled and fiddleback. *Characteristics:* Strong; tough; oily. Except for oiliness, much like walnut. *Uses:* Paneling; furniture; floors; ship decking. *Availability:* Readily available as veneer (plain and quarter sliced); limited as lumber. *Price Range:* Valuable.

**THUYA BURL** (*Tetraclinis articulata*)

*Source:* Atlas Mountains, Algeria. *Color:* Yellowish-brown, red. *Pattern:* Twisted curls and knots; burls. *Characteristics:* Much like our Eastern Arborvitae (*Thuja occidentalis*) except produced only as burls. Similar to redwood burls without such dark centers. *Uses:* Highly decorative areas of cabinetry. *Availability:* Rare as veneer. *Price Range:* Valuable. Not commonly produced but could be cut in volume.



164 — TIGERWOOD (Quarter Sliced)



## Selection guide to a world of fine hardwoods . . .

### **TIAMA** (*Entandrophagma* spp.)

Often mixed with Sapele in the trade. Characteristics are very similar.

### **TIGERWOOD** (*Lovoa trichilioides*, *Lovoa klaineana*)

Tiger Wood Congowood, Congo Wood—often misnamed African, Benin, Nigerian and Gold Coast “Walnut.” (See Photo 164)

*Source:* West Africa. *Color:* Gray-brown to gold with black streaks. *Pattern:* Ribbon stripe pronounced. *Characteristics:* Easily worked. Transverse grain shows irregularly-sized, scattered pores. *Uses:* Furniture; paneling. *Availability:* Limited as veneer (quarter sliced); limited as lumber. *Price Range:* Average.

### **TOLA** (*Oxystigma oxyphyllum*; *Pterygopodium oxyphyllum*)

Tchitola, Tola is also occasionally used in referring to Agba and Ebana

*Source:* Portugese Africa and Southern Nigeria. *Characteristics:* Much like Agba. However, exudes a cedar-scented gum, pale yellow in color. *Availability:* Rare. *Price Range:* Valuable.

### **TULIPTREE** (*Liriodendron tulipifera*)

See Yellowpoplar

### **TULIPWOOD** (*Dalbergia frutescens* var. *tomentosa*)

Tulip Wood, Boise De Rose, Brazilian Pinkwood, Pau Rosa  
*Source:* Northeastern Brazil. *Color:* Light background regularly streaked with red and yellow. *Pattern:* Annual growth

marked by dark rings. Rays are irregular, fine. *Characteristics:* In line of the concentric layers, pores are fairly large and open with numerous, very small pores in the remainder of the layer. *Uses:* Inlay, turnery, bandings. *Availability:* Rare as veneer (plain sliced); rare as lumber. *Price Range:* Valuable.

### **TUPELO** (*Nyssa aquatica*)

See Gum, Tupelo

### **VERMILION** (*Pterocarpus* spp.)

Name applies to several of the woods know as Padauk.

### **VIOLETWOOD**

See Amaranth and Kingwood

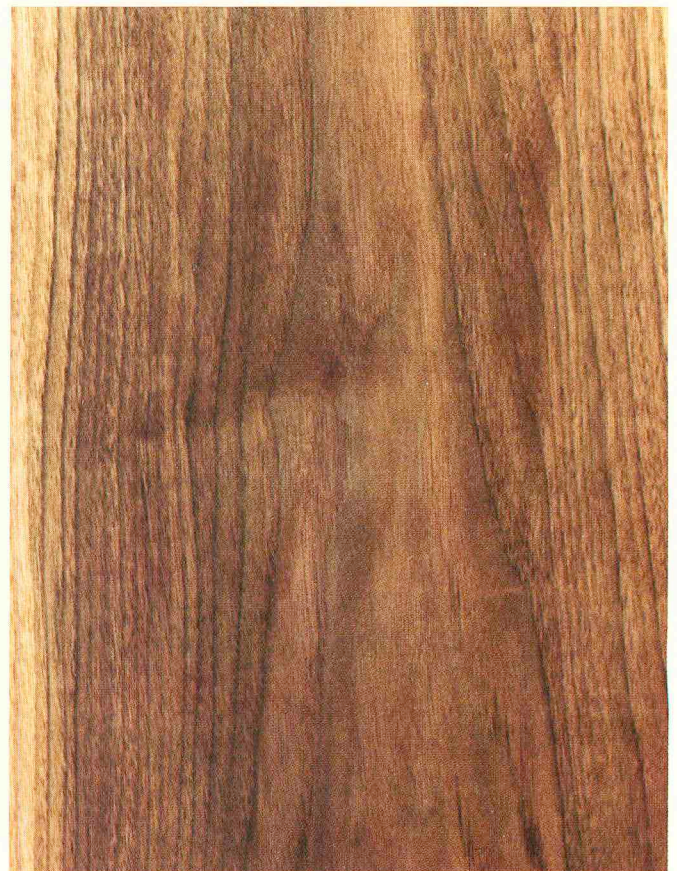
### **WALNUT, AMERICAN** (*Juglans nigra*)

American Black Walnut, Black Walnut (See Photos 165 through 170)

*Source:* While walnut grows throughout the United States and southern Canada, its commercial range is confined largely to some fifteen Central States. *Color:* Light grey-brown to dark purplish-brown. *Pattern:* Plain to highly figured. This one species produces a greater variety of figure types than any other, approached only by mahogany. Longwood (plain and quarter sliced, half-round, both plain and figured; crotches; swirls; stumpwood and occasionally burls). *Characteristics:* Moderately heavy; very strong for its weight; exceptionally stable. *Uses:* Furniture; architectural woodwork; gunstocks; novelties. *Availability:* Readily available as veneer; readily available as lumber. *Price Range:* Medium to valuable for highly figured types.



165 — WALNUT (Plain Sliced — Narrow Heart)



166 — WALNUT (Plain Sliced — Wide Heart)

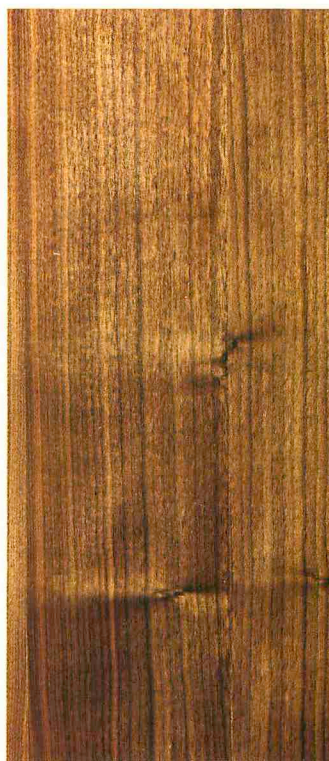


**“WALNUT”, AUSTRALIAN** (*Endiandra palmerstoni*)  
See Orientalwood

**WALNUT, CALIFORNIA** (*Juglans hindsii*),  
(*Juglans californica*)  
See Walnut, Claro

**WALNUT, CIRCASSIAN** (*Juglans regia*)  
Italian Carpathian, Persian, Russian, Turkish, and English Walnut, according to country of origin. Pertains to all called European Walnut except French Walnut.  
Source: Europe. Color: Tawny-colored. Pattern: Variegated streaks of black or dark brown; these pigment streaks passing across the growth rings are typical of Circassian. Occasionally crotches and swirls. Characteristics: Not as strong or hard as American Walnut, but otherwise about the same properties. Uses: For centuries has been used for highly decorative furniture, woodwork and gunstocks. Availability: Rare as veneer; rare as lumber. Price Range: Valuable.

**WALNUT, CLARO** (*Juglans hindsii*)  
California Walnut. There is considerable confusion as to the exact species of *Juglans* that produces Claro Walnut. It is a fast-growing walnut from southern Oregon and northern California coastal area and some authorities claim it comes from *Juglans regia*, some authorities call it *Juglans californica*.  
Source: California and southern Oregon, east of Coast Range. Color: Tannish-brown with dark brown. Pattern: Wavy grain. Prominent light stripes. Quarters, often fiddle-



169 — WALNUT  
(Quarter Sliced —  
Pin Knotty — Two Piece)



170 — WALNUT (Butt —  
Plain Sliced)



167 — WALNUT (Plain Sliced — Figured)



168 — WALNUT (Plain Sliced — Character Marked)



back figure; crotches and swirls. *Characteristics:* Moderately heavy; hard; rather open-grained. *Availability:* Rare as veneer (quarter sliced); not available as lumber. *Price Range:* Medium to valuable.

## **WALNUT, EUROPEAN** (*Juglans regia*)

Named according to country of origin, i.e., Carpathian, Circassian, English, French, Italian, Persian and Turkish Walnut. See Circassian Walnut for characteristics.

## **WALNUT, FRENCH** (*Juglans regia*)

Same as Circassian Walnut except for the following noted variations and characteristics known to certain trees grown in locations in France.

*Source:* France. *Color:* Soft and quite grey-brown; lighter in color than American or English Walnut. *Pattern:* Fine, smooth grain; less prominent growth lines than Circassian Walnut. *Uses:* Same as Circassian. *Availability:* Limited. *Price Range:* Valuable.

## **“WALNUT”, ORIENTAL** (*Endiandra palmerstoni*)

See Orientalwood

## **WALNUT, PERSIAN** (*Juglans regia*)

Persian Walnut is the wood of trees from Europe and Western to Central Asia.

## **“WALNUT”, QUEENSLAND**

See Orientalwood (name misleading)

## **WALNUT, TROPICAL** (*Juglans neotropica*, *Juglans olanchana*)

See Nogal

## **WALNUT, WHITE** (*Juglans cinerea*)

See Butternut

## **WENGE** (*Millettia laurentii*)

Dikela, Pallissandre (See Photo 171)

*Source:* Belgian Congo. *Color:* Heartwood dark brown with fine close blackish veining. *Characteristics:* Very hard and heavy. *Uses:* Wall paneling. *Availability:* Limited as veneer; rare as lumber. *Price Range:* Valuable.

## **WHITEWOOD, AMERICAN**

See Basswood and Poplar, Yellow

## **WILLOW, BLACK** (*Salix nigra*)

Used largely as lumber. Known in the casket trade as “Salis”.

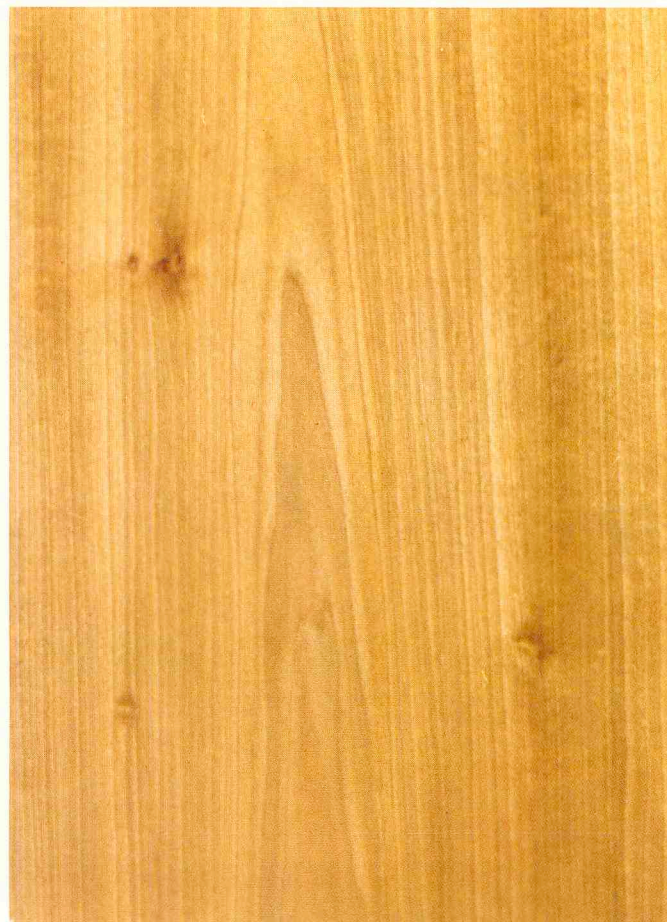
## **YELLOWPOPLAR** (*Liriodendron tulipifera*)

Tuliptree, Whitewood (See Photo 172)

*Source:* New England to Michigan, Appalachians to Gulf. *Color:* Canary color, sometimes with slightly greenish cast and occasionally with rather dark streaks. *Pattern:* Even texture; straight grain. *Characteristics:* Light to medium weight; strength; soft; easily worked. *Uses:* As veneer—widely used for cross-banding and backs of plywood; as lumber—interior finish or fixtures (usually to be painted);



171 — WENGE (Plain Sliced)



172 — YELLOWPOPLAR (Plain Sliced)



boat building; core stock; woodenware. *Availability:* Readily available as veneer (all methods of cutting used, occasionally burls); readily available as lumber. *Price Range:* Inexpensive.

**YEW, AMERICAN** (*Taxus brevifolia*)

Pacific or Western Yew

*Source:* Pacific Coast and Southwestern Canada. *Color:* Reddish-brown. *Pattern:* Close grained. Often highly grain figured. *Characteristics:* Heavy; hard; available in very small sizes. *Uses:* Veneer—decorative areas of fine furniture; lumber—archery bows. *Availability:* Rare as both veneer and lumber. *Price Range:* Valuable.

**YEW, ENGLISH** (*Taxus baccata*)

European, Caucasian (See Photo 173)

*Source:* England. *Color:* White to pale lemon to pale pink, sometimes orange to reddish-brown to rose red. *Pattern:* Smooth, lustrous grain frequently made distinctive and attractive with tiny black burls or pips, straight grained to wavy. *Characteristics:* Fine textured, strong, elastic. *Availability:* Limited. *Price Range:* Valuable.

**ZEBRAWOOD** (*Microberlinia brazzavillensis*)

Zebra Wood, Zebrano, Zingana (See Photo 174)

*Source:* African Cameroon; Gaboon, West Africa. *Color:* Straw and dark brown. Exceptionally pronounced fine stripes. *Pattern:* Striped; dark brown stripes; lustrous sur-

face. *Characteristics:* Heavy; hard; with somewhat coarse texture. *Uses:* Veneer—wall paneling, inlays. *Availability:* Readily available as veneer (quarter sliced). *Price Range:* Valuable.

**PHOTO CREDIT**

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Christel Danzer

*Lower Right, Page 52*

Christel Danzer

*Upper Right One-Fourth, Page 53*

Flooring Division, Olinkraft Corporation

*Lower Right, Page 54*

Carolina Colonials

*Upper One-Half, Page 55*

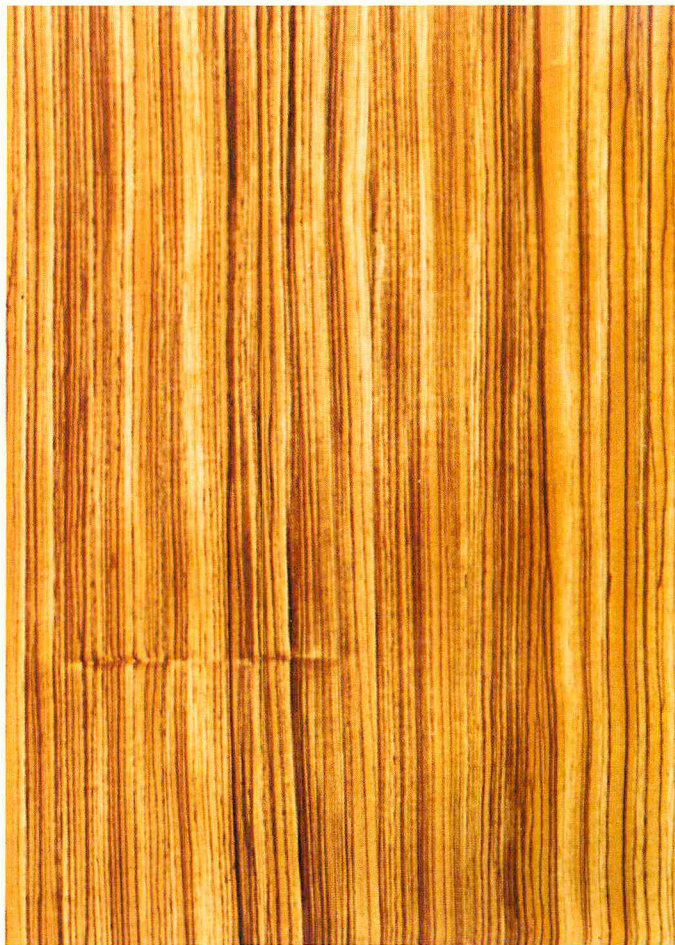
Burlington House Furniture,  
United Division

*Lower One-Half, Page 55*

Amana Furniture Shop



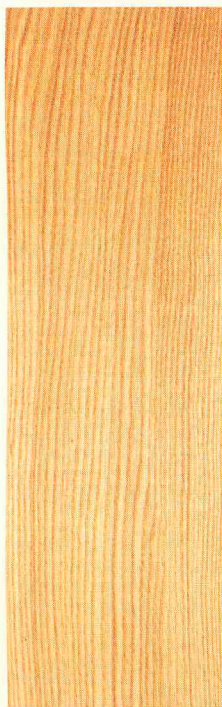
173 — YEW, ENGLISH (Plain Sliced)



174 — ZEBRAWOOD (Quarter Sliced — Two Piece)



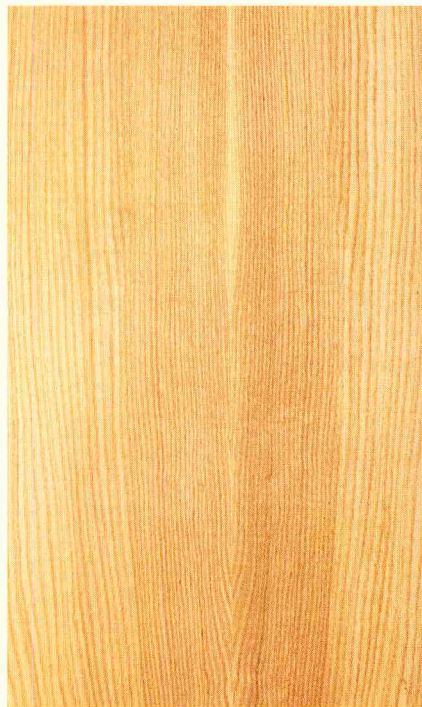
*non-conformity or conformity . . .  
 matched or mismatched in solids or veneer or both . . .  
 plain and quartered . . . highly figured  
 or accented with character marks*



RED OAK  
 Veneer  
 Single Face



RED OAK  
 Veneer — Slip Matched Faces



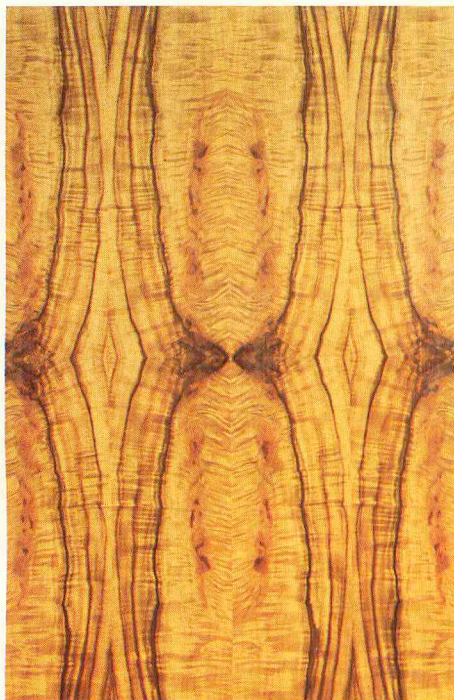
RED OAK  
 Veneer — Book Matched Faces



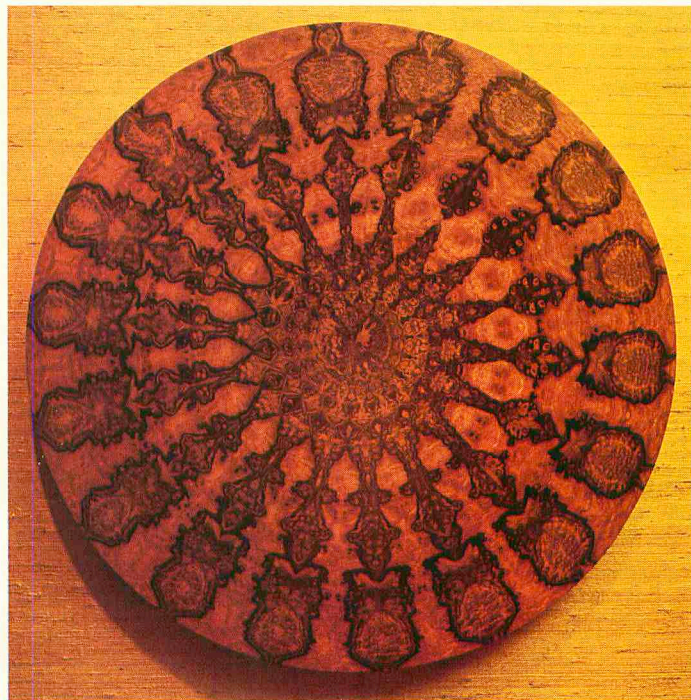
MAHOGANY  
 Two Piece Match



CINNAMON  
 Four Piece Match

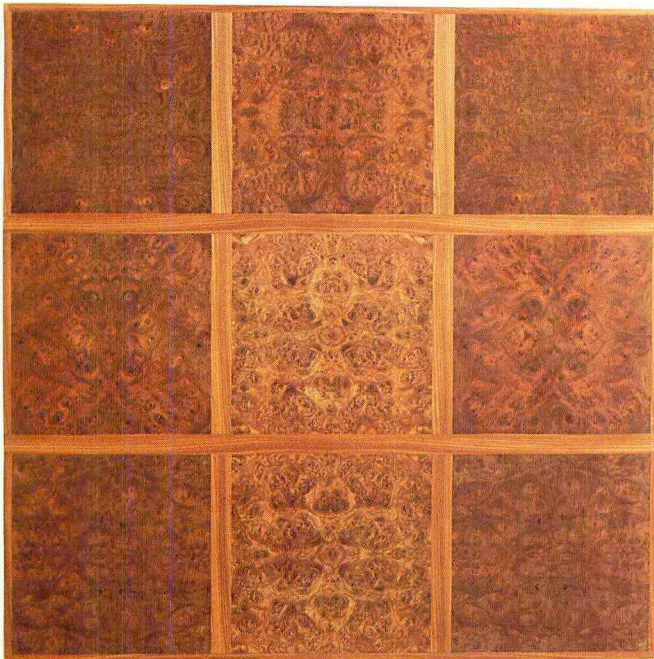


CINNAMON  
 Eight Piece Match

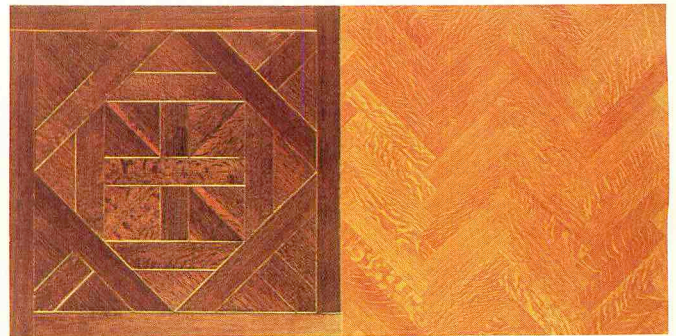


MATCHED VENEERS  
 Sunburst Pattern





MATCHED BURLS  
*Various Matching Techniques*



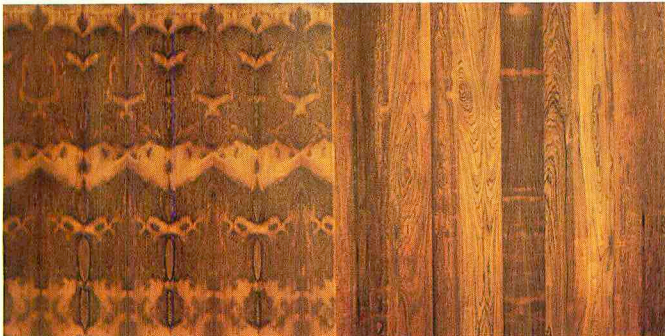
OAK FLOORING  
*European Parquetry*

OAK FLOORING  
*Herringbone Pattern*



WALNUT FLOORING  
*Colonial Plank*

WALNUT FLOORING  
*Antique Reproduction*



ARCHITECTURAL PANEL  
*Flitch Match*

ARCHITECTURAL PANEL  
*No Match*



WALL PANEL  
*Grooved*

STOCK PANEL  
*Not Grooved*



BLACK WALNUT  
*Lumber Paneling  
Tongue and Grooved*



BLACK CHERRY  
*Lumber Paneling  
Tongue and Grooved*

*Be imaginative with hardwoods*



when you want creativity . . . use fine hardwoods



WALNUT and MAPLE — Giftware and Sports Equipment



WALNUT — Novelties and Turning Stock



WALNUT and OAK — Giftware and Accessories



CHERRY — Family Room Paneling  
WALNUT — Flooring and Game Table



SOLID WALNUT  
Secretary





ASH SOLIDS and VENEERS — *Modular, Upright Living*



SOLID WALNUT CHEST  
Made from lumber not utilizing natural character marks



SOLID WALNUT CHEST  
Made from lumber utilizing natural character marks



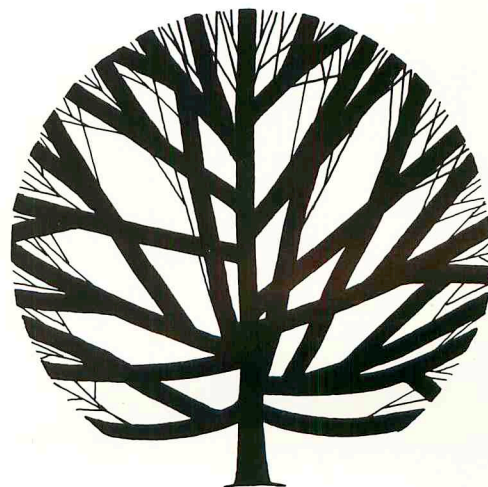


BEAUTIFUL GUNSTOCKS from AMERICAN BLACK WALNUT





In 1971 the Fine Hardwoods Association and the American Walnut Manufacturers Association merged to become the Fine Hardwoods/American Walnut Association. The association inherited from its two predecessor groups an enviable reputation for maintaining trade promotion and educational literature designed to focus attention on the beauty and versatility of hardwood lumber and veneer. A current inventory list of available species and types of veneer is maintained at the association headquarters for the convenience of architects, designers and all who specify or use fine cabinetwoods. Extensive hardwood reference data, photo files, and other basic information in ready reference form is available to all wood using industries, professional groups and schools. The association members, staff and wood expert friends welcome your special inquiries and stand ready to approach any problem solving tasks you may have.







**Fine Hardwoods / American Walnut Association**

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