

axils of the leaves, without the intervention of a fruit-stalk. Although both forms are generally distributed, the former is more abundant than the latter. In the mature state there is usually but little difference in the general habit and appearance of the two forms. The timber of both is characterized by great density and durability. In Great Britain the best surveyors for the navy "have not been able to discover any important difference between the two varieties," or, in most cases, even to distinguish one from the other. The timber is largely employed in shipbuilding, and in all constructive works where great strength and durability are required; also for the beds of railway-carriages, spokes, furniture, &c. The bark is one of the best known for tanning. In New Zealand this species makes an average growth of rather more than 2ft. per annum, which is greatly in excess of its growth in Britain. Trees over twenty-five or thirty years of age, however, seem to grow but little faster here than in England.

*Q. Lusitanica* (Webb). "Spanish Oak." Basin of the Mediterranean, &c.—A variable species, some forms of which afford excellent timber, of large dimensions.

*Q. Lusitanica* (Webb), var. *infectoria*.—A small tree. Produces the galls of commerce, largely used in the manufacture of ink.

*Q. lyrata* (Walter). Carolina, Georgia, Florida, Louisiana.—Suitable for planting in wet situations.

*Q. Prinus* (Linne). "Swamp Oak." Florida, Carolina, Louisiana, Missouri, &c.—Height, 80ft. Specially valued for coopers' work, and used for general building-purposes, &c., but less durable than other species.

*Q. alba* (Linne). "White Oak." Canada to Texas, &c.—Height, 80ft. to 100ft. A noble species, affording timber of large dimensions and of great durability, used for constructive works, railway-sleepers, general building-purposes, furniture, railway-carriage framing, &c. Largely imported into England under the name of "Quebec oak."

*Q. Ilex* (Linne). "Evergreen Oak." Southern Europe, Northern Africa, Himalaya Mountains.—It ascends Mount Etna to the height of 3,200ft., and the Himalaya Range to 10,000ft. The timber is remarkably dense and heavy, but extremely durable, and is used for shipbuilding, bridges, wheelwrights' work, &c. This species exhibits a considerable amount of variation. The acorns of some of the varieties are sweet and edible. *Q. Ilex* is specially adapted to littoral situations, but is of rather slow growth.

*Q. Suber* (Linne). "The Cork Oak." Algeria, Barbary, Canary Islands, Southern Europe, Corsica, Sardinia, &c.—A small species, from 20ft. to 40ft. in height, of great value on account of its cork: it is, in fact, the only tree that produces cork in sufficient abundance to form an article of commerce. The acorns, when roasted, form an article of food in Spain. A fine specimen still exists near Exeter (Devon)—its height is 60ft., the circumference of its trunk is 12½ft. An Auckland specimen, planted by the late Dr. Sinclair, is now 45ft. high, the diameter of the head being from 35ft. to 40ft.; the trunk is 17½ft. long, and 26in. in diameter at two feet from the ground. The outer layer of bark, forming the cork, has been twice removed.

*Q. dilatata* (Lindley). Himalaya Mountains.—Height, 80ft. to 100ft. An evergreen oak, affording timber of great strength, elasticity, and durability.

*Q. Cerris* (Linne). "Turkey Oak." Central and Southern Europe, Western Asia.—A variable species, attaining the height of over 100ft.; producing a timber of great value for the battens of ribbon-ooms, furniture, coopers' ware, and general building-purposes, but not equal in strength and durability to the English oak. It is a very handsome species, of rapid growth, and specially adapted to the New Zealand climate. The Lucombe oak is a hybrid between this species and the cork oak. It has a singularly noble and symmetrical appearance, and is of rapid growth, making from 2ft. to 4ft. in a season. It is nearly evergreen, the old leaves being simultaneously forced off, while still green, by the development of the new. The timber is of firm and even texture, straight-grained and durable. Unfortunately, this variety can only be propagated by grafting, so that it is scarcely adapted to forestal purposes.

*Q. Ægilops* (Linne). Valonia, Greece, Cilicia, Islands of the Mediterranean, Palestine, Asia Minor.—The cups and half-ripe acorns are largely used for special tanning purposes, under the name of "valonia," and are imported into Great Britain to the value of upwards of half a million sterling per annum.

*Q. coccifera* (Linne). "The Kermes Oak." Southern Europe, Asia Minor, North Africa.—Scarcely suitable for forestal purposes; but valuable on account of its supporting an insect (*Coccus ilicis*) which yields a scarlet dye, and forms an important article of commerce.

*Q. rubra* (Linne). "Red American Oak." Canada, Georgia, Texas.—A hardy species, capable of adapting itself to a great variety of soils. Timber of large dimensions, but not of the first quality; used for general building-purposes, cooper's work, &c. The pale-yellow tints of the leaves in spring, and their purple or red hues in autumn render it of great value to the landscape-gardener.

*Q. palustris* (Du Roi). "Marsh Oak."—Height, 80ft.; trunk, 3ft. to 4ft. in diameter. A species of rapid growth, affording a strong and elastic timber, specially adapted to the purposes of the cabinet-maker.

*Q. coccinea* (Wangenheim). "The Scarlet Oak." Massachusetts, Ohio, Texas, Georgia, Virginia, &c.—Of similar dimensions to the above. The timber is not of the highest quality; but the brilliant scarlet tint of the autumnal leaves renders it invaluable in situations where picturesque effect is desired.

*Q. Skinneri* (Bentham). Guatemala, Mexico.—A noble species, producing excellent timber, of great durability and of large dimensions. The acorns are 1½in. in diameter.

*Q. sideroxyla* (Humboldt, Bonpland).

*Q. Xalapensis* (Humboldt).—These fine Mexican species are stated to afford timber of large dimensions and extreme durability. The acorns are said to be edible.