

parts of northern Canterbury. For poles it must be planted close to check diameter growth, and near the sea it requires protection against the saline winds.

(4.) *E. acervula* (syn. *E. ovata*).—This species is not recommended for extensive planting, but where stands of it already exist they will supply strong poles of good medium durability. The species grows rapidly to pole-timber size up to altitudes of about 1,000 ft. all over the North Island.

#### IRONBARKS.

The dead bark in this group persists on stem and large branches; it is very firm, entirely non-fibrous, and on older specimens deeply furrowed. The ironbarks known to the timber trade are as follows:—

(1.) *E. crebra*.—The dead bark on young trees is pale, on older trees dark; leaves very narrow; seed-cups very small, about  $\frac{1}{8}$  in. in diameter; mature wood dark with tinge of red, hard, strong, and very lasting.

(2.) *E. paniculata*.—Dead bark pale; leaves rather narrow, bright green; seed-cups small, under  $\frac{1}{4}$  in. in diameter; mature wood pale, unsurpassed for strength and durability, much in demand for railway-sleepers, posts, and wire-poles.

(3.) *E. siderophloia*.—Dead bark at first flaky, later very hard, with deep furrows and wide ridges; leaves broad, especially in seedling and sapling stages; seed-cups up to  $\frac{3}{8}$  in. in length; mature wood dull red, dense, strong, in first grade for wire-poles and other work in contact with the ground.

(4.) *E. sideroxylon*.—Dead bark very dark and hard; leaves rather narrow, leathery, dull green; seed-cups often over  $\frac{3}{8}$  in. in depth, urn-shaped; mature wood red, very durable in any situation.

These four ironbarks are all indigenous to eastern Australia. All are warm-country trees, though *E. crebra* and *E. sideroxylon* extend their range westward over the cooler uplands. In New Zealand scattered specimens of *E. sideroxylon* have grown in forty years to a large pole-timber diameter in the North Island as far inland as Cambridge and as far south as Hawke's Bay; but their stems are neither very long nor quite straight. *E. paniculata*, favourably situated on the Auckland Isthmus, has grown to a small pole-timber size in thirty years; in other localities it has not done so well. *E. crebra* and *E. siderophloia* are represented by a few trees in genial situations, all still under pole-timber size. There is nothing yet in our New Zealand experience to warrant extensive planting of ironbarks; but there is good reason to make small experimental plantings of all the species in warm northern localities.

#### BOXES.

The name "box" came to be applied to the trees of this group because their bark somewhat resembled that of the European box-tree (*Buxus sempervirens*). The two most important eucalypts of the box group are *E. Bosistoana* and *E. hemiphloia*. They may be briefly described as follows:—

(1.) *E. Bosistoana*.—Dead bark short-fibred (or, as the botanists say, sub-fibrous), deciduous from branches, persistent on stem to a less or greater height; leaves in juvenile stage round or oval, on adult trees rather narrow; ripe seed-cups  $\frac{1}{4}$  in. or more in diameter; mature wood