"The sugar-making possibilities of these saps, considered commercially, seem to hinge largely upon conditions under which the sap can be gathered and handled. The saps of the three principal sugar-bearing palms, the nipa, the coco, and the buri [see S. P. I. No. 35689], run remarkably close together in composition. The average composition at 15/15 density runs about 17.5 per cent solids; 0.46 per cent ash; 0.54 per cent nitrogenous compounds, etc.; 16.5 per cent sucrose and traces of reducing sugars and acidity. As they exude from the trees these saps are generally neutral, but they ferment quickly, and one of the problems in sugar making would be the preservation of sap until it could be worked.

"The sap from these trees as a rule is obtained through the flower stalk. In the nipa the flower stalk is cut off immediately below the fruit. It is generally tapped the fifth year. Each day a thin slice is cut from the severed stem to keep the wound fresh and facilitate the flow of sap. The sap is collected in bamboo joints (Spanish, *bombones*) hung on the stem, generally having a capacity of about two liters. One stalk normally flows about three months, but it is not uncommon for it to be cut entirely away by the thin slices from day to day, long before the flow has ceased. In some districts the plant is cut before the fruit forms, and the flow of sap is increased thereby so far as daily output is concerned, but the length of the flow is shortened, the total yield of the plant apparently being about the same by either method. The plants are allowed to rest and put forth new fruit stalks after being thus exhausted. How long they continue to bear is uncertain, but all authorities agree that a plant will continue to produce sap for many years, probably for 50 years or more on an average. The yield of sap also is uncertain, and estimates vary between wide limits. An experienced distiller says that each plant will average about 1¼ quarts daily, or 13.2 gallons for a season." (*George E. Anderson, in abstract of report by Dr. H. D. Gibbs on the Alcohol Industry in the Philippines, in Daily Consular and Trade Reports, December 4, 1911.*)

36059. OLEA VERRUCOSA (R. and S.) Link. **Wild olive.**

From Simondium, near Paarl, Cape Province, Union of South Africa. Presented by Mr. C. W. Mally, entomologist, Department of Agriculture, Cape Town. Received August 11, 1913.

"A tree so like the European olive that where the two are growing alongside in cultivation it is difficult to find a distinction except the size of the fruit. Leaves lanceolate or linear lanceolate, 2 to 4 inches long, one-third to one-half inch wide, tapering somewhat to both ends, acute, coriaceous, shortly petioled, the under surface clothed with small, flat, scarious yellowish scales so closely adpressed as to give the appearance of a glabrous yellow surface, the upper surface and the twigs sometimes similarly clad at first and afterwards glabrous, in other cases almost glabrous from the first. Panicles axillary, trichotomous, not much branched, rather shorter than the leaves. Bracts deciduous. Fruit an oblong dry drupe about one-fourth inch long, shortly pointed. Usually a tree 20 to 30 feet high, 12 to 18 inches in diameter, branched a good deal, and with little clean timber; occasionally, however, trunks 3 feet in diameter, exceedingly gnarled and hollow, are to be found, even up in the Herechal district, which, considering its slow growth, must have taken a very long time to grow. The timber, which is of a dark gray or almost black color and often wavy in grain, is equal to *Ptaeroxylon utile* in durability as a fencing pole, and even the branches make good poles. Fourcade describes the wood as 'extremely heavy, very hard, very strong, moderately elastic, very close grained, and compact.' About 3,000 dry seeds go to 1 pound weight; the seeds, however, do not germinate quickly, and as hard-wood cuttings strike, that method of propagation is preferred. In cultivation it is found to be liable to attack by a mealy aphis. The European olive has been successfully budded upon young plants of this species." (*Sim, Forest Flora of Cape Colony.*)