

be dried and stacked like oak-bark without losing any of the tanning properties. The plant is strongly recommended by Lindsay to the notice of the local tanners on account of its abundance. Kirk* states that the bark of *C. ruscifolia* contains 16.8 per cent. of tannin, and strongly recommends the use of the whole plant for this purpose. Skey† (1895) once, however, analysed a sample (6929) of bark forwarded by the Hon. Mr. Ward, and found only 6.6 per cent. of tannin in the material dried at 212° F.

The genus *Coriaria*, to which the tutu belongs, is a very widely spread one, consisting of closely allied species which are found in southern Europe, Central and South America, Japan, India, and New Zealand. The European *C. myrtifolia* is known as *Geberstrauch* (dyers' bush) in Germany, and as *redoul* in France. It has been used for dyeing and tanning, being then worth £9 10s. per ton. In Russia the root is largely used for tanning. Experiments upon the dyeing properties of *C. myrtifolia* carried out in the dyeing laboratory of the Yorkshire College, Leeds, have shown that the leaves of this species contain about 16 per cent. of tanning-matter. The colour of leather tanned with the extract was practically equal to that produced by sumach. The percentage of tanning-matter in sumach is, however, considerably higher than in the two species of *Coriaria*. *C. thymifolia* is in South America known as the "ink-plant," and the juice of the fleshy petals is used as ink under the name "chauchi." Jameson‡ (1863), writing from Quito, is quoted by Dr. Hooker that this ink is preferred to the commercial inks in use. It does not corrode the steel pen, and it is said to resist the action of sea-water. When newly written the colour is reddish, becoming black after a few hours. *Coriaria thymifolia* is one of the commonest hillside plants in many parts of New Zealand. From it Easterfield and Aston§ (1900) isolated a quantity of gallic acid and the dye quercetin ($C_{15}H_{10}O_7 \cdot 2H_2O$), which is a glucoside, a lemon-yellow crystalline powder having marked dyeing properties. It has been found by A. G. Perkin|| (1900) in *Coriaria myrtifolia*, and is widely distributed in the vegetable kingdom, occurring in berberry, onion-skin, Cape sumach, and Gambier catechu.

Ackama rosaefolia (Makamaka).—Colenso¶ suggests that it might be found useful in tanning. Kirk* states that the bark has been utilized for tanning, and is probably of similar value to that of the closely allied tawhero.

* "Forest Flora of New Zealand."

† Twenty-ninth Col. Lab. Report.

‡ Proc. Linn. Soc. London, Vol. vii. § "Tutu," Pt. I, Eighth Report, Dept. Agriculture; Trans. N.Z. Inst., Vol. xxxiii; Trans. Chem. Soc. London, Vol. lxxix.

|| Trans. Chem. Soc. London, Vol. lxxvii.

¶ Trans. N.Z. Inst., Vol. i, 2nd ed.