genus as the one most likely to realize economic expectations in the matter of dyestuffs, owing to its relationship to the madder, its abundance, size, and the coloured inner bark of some of the species. The madder-plant (*Rubia tinctorum*), according to Pliny, was used in the ancient civilizations. Some authorities assert that it was used in dyeing long before it was employed in painting. Its cultivation was much encouraged in the reign of Charlemagne, but it met with varying fortunes in Europe until the first half of the nineteenth century, when in France under Louis Philippe its culture was increased in consequence of its use in dyeing military material. This prosperity continued until the synthesis (artificial manufacture) of alizarin, the chief dye in madder, was accomplished in 1869. This discovery by chemists in Germany was patented in England on the 25th June, 1869. On the following day Perkin applied for a provisional patent which he had discovered independently. The two investigators then collaborated with the Badische Anilin und Sodafabrik. This was the first natural vegetable dyestuff to be artificially produced, and it and its derivatives now rival those of indigo in importance. The yellow root of madder, which becomes red on drying, contains a much larger proportion of the colour-making substances than other parts of the plant, a fact which bids fair to find a parallel in the case of the coprosmas, judging by the increased thickness and colour of the root-bark compared with the above-ground parts. It is to be noted that the artificial dyestuff has almost entirely replaced the natural madder-root except for dyeing military material and making fine pigments. The present author, finding that the bark of certain New Zealand species of *Coprosma* yielded with alkalis a brilliant purple-red solution, looked into the matter. Although the bark of *Coprosma grandifolia* was examined for alkaloids with a negative result by Skey† (1869), and he noted that the inner surface of the bark was a bright-yellow colour, the chemical examination of the colouring-matters of this species and the genus generally does not seem to have received the attention which its close relationship to the madder-plant (*Rubia tinctorum*) of commerce would warrant.

There are at least three New Zealand species of the genus *Coprosma** —representatives of which are among the commonest and most widely distributed native shrubs—the bark of which (especially that of the root) is of considerable tinctorial power—viz., *Coprosma grandifolia*, *C. linariifolia*, and *C. areolata*. The first has an orange-yellow, the

* Since writing the above I have ascertained that additional species give a colour reaction with alkalies—viz., *C. lucida C. rotundifolia*, *C. rhamnoides*, *C. foetidissima*, and *C. microcarpa*. † "On the Examination of the Bark of *Coprosma grandifolia* for Alkaloids." Trans. N.Z. Inst., Vol. ii.