

XXXVII.—*Note on Morindone.*

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IN 1849* Professor Thomas Anderson examined the root of the *Morinda citrifolia*, the "Al" root of the Hindoos, which is extensively used as a dye-stuff, chiefly in the Madras Presidency, and obtained from it a pale yellow crystalline body, to which he gave the name of *Morindin*. When morindin was subjected to distillation, it yielded a reddish yellow crystalline sublimate, to which he gave the name of *Morindone*. Anderson likewise found that morindin was incapable of dying cloth mordanted in the usual way, but that, with the Turkey red mordant, it produced permanent, but very dull red colours; while morindone was a true dye-stuff, and yielded the bright colours of ordinary madder.

In 1852,† Professor Rochleder, from the consideration of Anderson's statements, gave it as his opinion, that morindin was identical with the ruberythric acid which he himself had obtained from madder, and that morindone was alizarin. About eighteen months ago I was fortunate enough to obtain a very small quantity of "Al" root, from which I extracted the morindin by Anderson's process. When cautiously heated in a Mohr's apparatus, it was decomposed, yielding a sublimate of bright yellowish red needles, which had all the physical and chemical properties of alizarin. I transmitted a small quantity of the substance to Professor Stokes, who, after examination, informs me that it has the spectrum of alizarin, as may be seen by the following extract from a letter I received from him, April 2nd, 1863 :—

"*Anderson's Morindone*.—The ethereal solution, like that of alizarin, causes a general absorption of the highly refrangible rays without the distinctive bands of purpurin. The solution in carbonate of soda shows the peculiar system of absorption-bands of a similar solution of alizarin, and moreover shows the same reaction with a solution of alum and tartaric acid, rendered slightly alkaline. This removes the three alizarin-bands and establishes a broad minimum a little further on in the spectrum." There can be no doubt therefore that Anderson's morindone, of which he made only one analysis, is simply alizarin. Whether Rochleder's

* Trans. Royal Soc. Edin., xvi., 435.

† Ann. Ch. Pharm., lxxxii, 205.

second conjecture is correct, that ruberythric acid and morindin are the same substance, I am unable to determine.

When powdered morinda-root is boiled with moderately dilute sulphuric acid, as in the ordinary garancin process, its morindin is converted into alizarin; but the large quantity of brown resinous matter which is produced at the same time, very greatly diminishes the value of the dye-stuff obtained, as it renders the colours dull and the whites very difficult to clear. Though "Al" root therefore is never likely, at least in Europe, to compete successfully with madder, still it furnishes the scientific chemist with the best known source of *pure* alizarin; for, as is well known, it is by no means easy to separate the last trace of purpurin, which always accompanies alizarin in ordinary madder.
