

AN ASSOCIATION OF NATROLITE AND DATOLITE AT
POKOLBIN, NEW SOUTH WALES.

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In September, 1901, the Trustees of the Australian Museum acquired by exchange with the University of Sydney, through Professor T. W. E. David, Trustee, three specimens of a white, fibrous, radiating mineral, believed to be natrolite. It occurs in veins and cavities in an amygdaloidal hypersthene-andesite (*vide* Prof. David) at Kangaroo Grounds, Millfield, Pokolbin, Co. Northumberland. One specimen, of which an analysis (No. IV.) is given, is undoubtedly typical natrolite, but a preliminary examination showed that the others contain a notable amount of boric acid, and detailed chemical and microscopical investigation left little doubt that we have here an intimate mixture of the two minerals natrolite and datolite. This result is of some interest, as datolite, so far as I am aware, has not hitherto been recorded from the mainland of Australia, though occurring in Tasmania.

Physical Characters.—The mixture is white, almost opaque, the fibres radiate from several centres and appear bladed on fracture. It fuses between 2 and 3, with slight intumescence, to a clear glass. Specific gravity determinations gave values varying from 2.27 to 2.54, suggesting a mixture, not a definite mineral. The natrolite does not differ materially in appearance and habit save that it seems less compact. The habit of the two is that which is typical of natrolite, thomsonite and pectolite. The specimens which react for boron look perfectly homogeneous to the eye and, on a superficial examination, might easily be mistaken for a single mineral.

Microscopic Characters.—Two sections were prepared, one parallel to the direction of the fibres, the other transverse. The former plainly revealed the presence of two minerals, one of which has a low refractive index and weak birefringence, depolarising in colours of the first order. It is fibrous and striated parallel to its direction of elongation. Extinction is straight and compensation takes place perpendicular to the length of the fibres. The other occupies the interspaces between the fibres of the first, is not striated, has a higher refractive index and stronger birefringence, depolarising in second order colours. The extinction has no constant relation to the borders of the