specimens to him named *Mitra vincta* for the Tasmanian examples banded with dark orange and brown.

Tenison-Woods, in 1877, says:—"This shell was given to him by Mr. Legrand as *M. vincta*, but was unable to trace it," probably through not having works of reference at his command.

Mr. W. F. Petterd informs me that *Mitra vincta = Weldii* is a very common species at Long Bay and Blackmans Bay, and from the number of specimens that I have received at various times it shows it to be a very variable species.

I very much doubt its being found at the Cape of Good Hope, as quoted by Reeve. The variety named by A. Adams as *Mitra rufocincta* was described from a single specimen, slightly sea worn, locality not known, and the variety *Mitra vincta*, A. Ad. is said to have come from Cape Natal. Paetel, in his Catalog der Conchylien-Sammlung, 1873, quotes it from New Caledonia; I have never seen it from there. Mr. Sowerby, in the Thesaurus Conchyliorum, erroneously attributes this species to C. B. Adams, and the locality Jamaica. The two specimens figured by Sowerby No. 520, 521, are evidently true Tasmanian shells, and are the so-called *Mitra Weldii*, Tenison-Woods. If it is proved that *Mitra Capensis*, Dunker, is not found at the Cape of Good Hope, the name is a misnomer, and that *Mitra rufocincta*, A. Adams, should replace it.

Hab.—Cape of Good Hope (*Reeve*); Natal, South Africa, (*Tryon*); Long Bay and Blackmans Bay, Tasmania (*W. F. Petterd, Rev. H. D. Atkinson*); Hobson's Bay, Victoria (*J. F. Bailey*).

NOTES ON THE DISCOVERY OF A NEW EUCALYPTUS.

By T. B. Moore.

A few notes on the discovery of a new Eucalypt may be of some interest to the Fellows of the Royal Society, especially the introductory remarks, for which I am greatly indebted to our illustrious honorary member—Baron von Mueller—who thus forwards his determination on what he considers a most important botanical discovery.

During a recent exploration, for the Government, of the country situated between the townships of New Norfolk and Victoria, an Eucalypt which had never come under my observa-

tion during any of my numerous wanderings through the unexplored portions of Tasmania, and one which I could not find described in the Flora of the Colonies, was first observed on a saddle of the dividing range between the Huon and Derwent watersheds.

On this bleak, high land, at an altitude of over 2,000 feet above sea level, the tree attains a height of quite one hundred feet. Further investigations led to the discovery of a splendid forest, extending in a narrow strip for three miles along the southern side of the range. Here, in a less exposed situation and at a much lower elevation, this magnificent tree rises to the stupendous height of two hundred feet; and in many cases, for half that lofty distance its long straight stems are branchless, a most noticeable peculiarity in its growth. The bark is thin, smooth, and of a reddish or chocolate colour; but where the deciduous part is freshly shed, it is mottled with yellowish streaks or blotches. The wood is of a light red colour, extremely hard and surprisingly heavy, and is of a stringy and close-grained character.

These recommendable characteristics of the wood, added to the natural hardiness of the tree—luxuriantly growing, as it does, in unsheltered situations and in poor soil—convinces me that the timber will be found to equal the far-famed wood of the E. globulus, not only in durability, but as a commercial product; and being so highly recommended by so eminent an authority as Baron von Mueller, the tree should most undoubtedly be brought under trial culture and conservation by the Government of the Island, without any unnecessary delay.

As I wished to announce the discovery of this Eucalypt to our Royal Society, before leaving the South of Tasmania, I am unavoidably obliged, on account of not being able to obtain the blossom at the present time, to forward these incomplete notes, but take this pleasurable opportunity to name the new species in honor of Baron Von Müeller, and with his assistance, at some future date, purpose compiling an illustrated paper with systematic comparisons as to its Phytography.

The flower does not expand until next month, but on comparing the unexpanded ones with those of the E. Gunnii, the stamens and anthers seem similar in both.

The leaves of the younger and smaller trees differ very slightly from those of the older and larger ones, the latter being more lanceolate and acuminate than the former. The following is a description of the new species, *Eucalyptus Müelleri*:—Branchlets spreading, cylindrical; leaves thick, alternate, shining and crenulated; lanceolate or ovate, often acuminate, oblique rarely straight; veins indistinct, circumferential vein irregular, but generally close to edge of leaf, oil-glands pellucid. Peduncles

short, detoid and flattened, each with two or three flowers. Calyx-tube much less rounded and more angular than fruit, about three lines long, with a similar diameter at its dilated orifice; operculum short, verrucous, with orbicular point. Fruit hard, generally winged or angled twice, globose or ovoid, from three to four lines in diameter, much dilated at orifice, the rim rounded and slightly prominent, capsule sunk, but valves protruding when open.

Introductory Remarks by Baron Von Mueller, K.C.M.G., M. and Ph. D., F.R.S.

"Of the genus Eucalyptus twelve species have hitherto been recorded from Tasmania, and as fairly well marked, three of these being endemic, the others occurring also on the mainland of Australia. The species peculiar to the island are Eucalyptus cordata, E. urnigera, and E. vernicosa—all three linked together by several characteristics, so that it is not always easy to refer occasional aberrant or transitory forms to the species from which they originated. In my Eucalyptography, the E. cordata became rather extensively elucidated, through the kind aid of Mr. T. Stephens and Mr. F. Abbott, its close relation to E. urnigera being then brought under particular notice; but E. vernicosa remained hitherto, in the above-mentioned work, unattended to for want of sufficient material—though already, some years ago, a lithographic drawing of its typical state became prepared and printed. This was withheld from publication, as it seemed likely that the plant, in its very dwarf state, represented the highland form of a taller plant of sub-alpine regions, analogies offered by some other plants also in Tasmania pointing in that direction. Indeed, when ascending Mount Field East in 1869, I came across an Eucalypt, at elevations between 3,000 and 4,000 feet, which rose in that frigid region to fully 30 feet, and which seemed to me rather a tall state of E. vernicosa than a variety of E. Gunnii. Very far away from any settlement, and in so inclement a tract of country, my stay could only be brief—protective cover and provender having to be carried by pedestrians, and a track for some distance to be cut through the dense sub-alpine scrubs. This particular tree differed from the well-known "*Cider-tree*" of Tasmania in its very rigid, dark-green leaves, with a tendency to marginal crenulation, and with a somewhat oily lustre on both parts; moreover the calyces being somewhat verrucular, rough and their opircular portion not prominently pointed, as in the normal state of E. Gunnii, defined by Sir Joseph Hooker's original diagnosis (London "Journal of Botany," III, 499); the fruits being also more abbreviated than those described in 1844, and as delineated by Fitch in 1860 ("Flor. Tasm.," I, Plate xxvii).

From the above remarks it will be perceived that the plant from near the Lakes of Mount Field offers some approach to E. urnigera; and this is borne out by specimens of evidently the same tree just submitted to me by Mr. T. B. Moore, as obtained by him during recent surveys across the Mount Wellington ranges. It rises there even to the stupendous height of 200 feet, half that size being still reached in the cool elevations of 2,000 feet. Mr. Moore observed the bark to be smooth, of a reddish or chocolate colour, but where fresh shed it being mottled with yellowish streaks or blotches. The leaves are ovate-lanceolar, and attain a length of four inches.

It remains now to be shown, in what precise position systematically E. vernicosa is standing to E. urnigera and to E. Gunnii, after this most highly developed state of the former became discovered; but these comparisons can be carried on much better by local observers in the forests themselves, than by observations on necessarily limited and fragmentary material in a remote study-room. But whatever exact place this tree found by Mr. Moore may phytographically occupy, it will add a most important one to the very few of the genus which bear considerable frost; and as the timber is pronounced by that gentleman as extremely hard, close-grained, tough and heavy, this hardy Eucalypt should be brought speedily and extensively under trial culture in cool climates—when also the characteristics of the seedlings would, for diagnostic purposes, come under observation. In conclusion I may add, that the small-leaved dwarf alpine state of E. vernicosa is now known also from Mount Arrowsmith (Gulliver), Mount Norfolk (Emmett), and Mount Sorell (Milligan)."

NOTES ON THE GEOLOGY OF THE KING RIVER, TOGETHER WITH A BRIEF ACCOUNT OF THE HISTORY OF GOLD-MINING IN AUSTRALASIA.

By Robert M. Johnston. F.L.S.

The Archæan and Silurian rocks of Western Tasmania forma series of folds whose axes traverse the country north and south. The great folds generally are anticlines, and are composed principally of quartzite, metamorphic schists, conglomerates, etc.

Queen River Group.

The axis of one of the great north and south anticlines running northward from the Gordon and immediately west