passing over the upper surface of the leaf. Other experiments on the respiration of rejected leaves support the view that the stomatal openings, in spite of their minuteness, offer a very much easier path from the atmosphere to the interior of the leaf than does the cuticle.

Conclusions.—1. Under normal conditions practically the sole pathway for CO_2 into or out of the leaf is by the stomata. Since oxygen diffuses more readily than CO_2 through fine openings, the same probably holds for oxygen and the whole of the gas-exchange.

2. Under abnormal conditions, when the stomata or intercellular spaces are blocked and the surrounding tension of CO_2 is great enough, passage of CO_2 by osmosis through the cuticle may take place.

3. That such closure of stomata as is held to take place in darkness does not prevent the distribution of gas-exchange closely agreeing with that of the stomata.

4. That the exhalation of CO_2 in bright light by a leafy shoot in Garreau's well-known experiment is not the expression of any physiological truth, but only due to the imperfections of the conditions. Isolated green leaves fully illuminated allow no CO_2 to escape from them.

SOME NEW BRITISH ALGAE.—While collecting at Weymouth in September, 1892, I found some Algae which do not appear to have been previously described. Full descriptions and figures of these will appear in an early number of the *Annals of Botany*. In the meantime, as I have distributed specimens of the plants amongst my friends under manuscript names, it may not be out of place to give very short descriptions of them now.

Among the most interesting was a little epiphyte on *Castagnea Griffithsiana*, J. Ag., which proved to be the type of a new genus which I have called after my friend Mr. T. H. Buffham.

The genus **Buffhamia** belongs to the Chordariaceae, and may be described as follows: Fronds simple, cylindrical, solid, composed of an inner layer of large angular-roundish colourless cells and a cortical layer of closely-packed small coloured cells, from which at maturity arise short, jointed assimilating filaments (paraphyses), plurilocular sporangia and colourless hairs. Plurilocular sporangia, the only form of reproductive organs at present known, linear-oblong with obtuse or slightly pointed apices, stalked.

Buffhamia speciosa, nov. sp. A small plant from a quarter to one and a quarter inch in length and about 1 mm. in breadth. Characters the same as those of the genus.

Tellamia.—A new genus of Chlorophyceae named in honour of Mr. R. V. Tellam, of Bodmin. Thallus yellow- or brownish-green, or more rarely a clear grass-green, minute; composed of radiating branched jointed threads with tun-shaped or oval cells very much constricted at the joints. At first the filaments are rolled up into an almost spherical ball, afterwards they spread out and branch in all directions. Reproduction by zoospores formed in the swollen cells, which frequently become nearly globular. The species of this genus grow in the periostracum of the common yellow periwinkle (*Littorina obtusata*, L.).

Tellamia contorta, nov. sp. Filaments closely interwoven, much branched in an irregular manner, branches curled and twisted, frequently falcate, cells oval, 3–10 μ in diameter, usually 6–9 μ long but sometimes much longer. Irregular swellings are not uncommon in this species.

Tellamia intricata, nov. sp. Fronds slender, much branched, branches opposite or alternate, patent, seldom falcate or recurved. Cells oval or oblong, 2.5–4 μ in diameter, 4–24 μ long. The two species frequently grow side by side, but are easily distinguishable, the filaments of *T. contorta* being much darker coloured than those of *T. intricata*.

Myriotrichia densa, nov. sp. In the Journal of Botany for November, 1891, Mr. T. H. Buffham describes and figures the plurilocular sporangia of a *Myriotrichia* which he refers to *M. clavaeformis*, Harv., at the same time expressing surprise that the form of this species bearing plurilocular sporangia should be so different from that bearing the unilocular. Since the publication of that paper I have found the plant figured by Mr. Buffham, at Arran, Cumbrae, and Weymouth, but with both unilocular and plurilocular sporangia. Both forms are exactly alike outwardly. Frequently both forms of reproductive organs occur on the same individual. The plant appears to me quite distinct from any described species of *Myriotrichia*; I have therefore named it *M. densa*.

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Batters, Edward Arthur Lionel. 1895. "Some new British algae." *Annals of botany* 9, 168–169. <https://doi.org/10.1093/oxfordjournals.aob.a090731>.

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