

according as the animal or vegetable element is predominant, they can at one time exhibit an animal, at another a vegetable life, without altering their originally received form.

In the genus *Micromega* the author has made some observations, which, if confirmed, are of very great importance, and more than any other point will tend to establish the true position of these beings in a natural system. He informs us that he has seen the naviculæ or frustules in this genus metamorphosed into green globular spores. An Alga was discovered by Dr. Dickie at Aberdeen, which was alluded to before in this Journal, which seems to confirm these views; but Mrs. Griffiths, than whom no one is able to form a better judgement, or whose opinion is entitled to greater weight, and Mr. Ralfs are inclined to think that the appearance is produced by parasites of the genus *Cocconeis* and similar productions. The point cannot therefore be received at present as established, though we ourselves are persuaded that Dr. Kützing's views will be found correct.

Our British coasts abound in species of *Schizonema* and *Micromega*, and we regret much that Dr. Kützing had not the command of better materials as regards the British species. We fear that some communicated by Binder were not authentically named, and this is the more to be regretted, as far the greater part of the species described in Harvey's 'Manual' are well understood by the author, and especially by Mrs. Griffiths, who has so largely contributed to the illustration of the genus. In this indeed our friend Dr. Kützing is not to be blamed, but the writer of the present remarks is rather inclined to reproach himself for not having, by some inadvertence, communicated specimens when it was in his power to do so. Our only reason for calling attention to the subject is to induce due caution in the examination of this part of the work.

We trust that it will receive the support it deserves, and we have little doubt that it will do so, as it is no less indispensable to the geologist than to the botanist.

The Botany of the Voyage of H.M.S. Sulphur. Edited by R. B. Hinds, Esq. The Botanical descriptions by G. Bentham, Esq. Nos. 2, 3, 4.

We have already noticed the first number of this valuable work, of which three additional numbers have recently reached us. The expectations which were raised by an examination of that number are fully answered by these. Indeed it seems to us that the plates have improved in the successive numbers. The description of the plants of California is concluded, and the remaining portion is occupied with those of Western Tropical America.

Several new genera are described and very many new species. It is quite unnecessary to add that these descriptions possess great excellence; the name of Bentham is a sufficient security on that point.

Such books as that now before us are the strongest proof of the value of the assistance of late afforded by Government for the publication of the results in natural science obtained by officers on board

of Her Majesty's ships; and the general approbation of the scientific world will we hope cause similar applications of small portions of the public money in future.

Algæ Hibernicæ. By Wm. M^cCalla, Associate of the Edinburgh Botanical Society. Vol. I. Dublin, S. B. Oldham, 8 Suffolk Street, 1845.

Under this title Mr. M^cCalla has just published a very handsome volume in large-sized quarto, price 1*l.*, containing beautifully preserved specimens of fifty different species of Irish Algæ; and proposes in future similar volumes to edit the remainder of our species, as well freshwater as marine. The volume is bound in strong boards covered with purple grained cloth, and the specimens are fixed on peculiarly stout and thick paper, so that they may be turned over with great facility and without danger of injury. Those in the present volume have been collected chiefly in Roundstone Bay, county Galway, a locality well known to science by Mr. M^cCalla's very numerous zoological and botanical discoveries, and are as follows:—

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| 1. <i>Griffithsia multifida</i> , <i>Ag.</i> | 26. <i>Ulva bullosa</i> , <i>Roth.</i> |
| 2. ———— <i>corallina</i> , <i>Ag.</i> | 27. <i>Conferva rectangularis</i> , <i>G.</i> |
| 3. <i>Callithamnion plumula</i> , <i>Lyngb.</i> | 28. ———— <i>Hutchinsia</i> , <i>Dill.</i> |
| 4. ———— <i>pedicellatum</i> , <i>Ag.</i> | 29. ———— <i>Kaneana</i> , <i>M^cC.</i> |
| 5. ———— <i>Hookeri</i> , <i>Ag.</i> | 30. <i>Fucus balticus</i> , <i>Ag.</i> |
| 6. ———— <i>corymbosum</i> , <i>Ag.</i> | 31. ———— <i>Mackaii</i> , <i>Turn.</i> |
| 7. ———— <i>tetragonum</i> , <i>Ag.</i> | 32. <i>Gigartina Griffithsia</i> . |
| 8. ———— <i>Arbuscula</i> , <i>Ag.</i> | 33. <i>Lyngbya majuscula</i> , <i>Harv.</i> |
| 9. ———— <i>Daviesii</i> , <i>Ag.</i> | 34. <i>Schizonema quadripunctatum.</i> |
| 10. ———— <i>polyspermum</i> , <i>Ag.</i> | 35. <i>Chylocladia clavellosa</i> , <i>Hook.</i> |
| 11. ———— <i>byssoides</i> , <i>Arn.</i> | 36. <i>Rhodomenia bifida</i> , <i>Grev.</i> |
| 12. <i>Delesseria ruscifolia</i> , <i>Lx.</i> | 37. <i>Porphyra vulgaris</i> , <i>Ag.</i> |
| 13. ———— <i>Hypoglossum</i> , <i>Lx.</i> | 38. <i>Ralfsia deusta</i> , <i>Grev.</i> |
| 14. <i>Berkeleya fragilis</i> , <i>Grev.</i> | 39. <i>Haliseris polypodioides</i> , <i>Ag.</i> |
| 15. <i>Chætophora tuberculosa</i> , <i>Hook.</i> | 40. <i>Helminthocladia virescens.</i> |
| 16. <i>Gloiosiphonia capillaris</i> , <i>Carm.</i> | 41. ———— <i>Griffithsiana.</i> |
| 17. <i>Nitophyllum punctatum</i> , <i>Grev.</i> | 42. <i>Rivularia nitida</i> , <i>Ag.</i> |
| 18. <i>Striaria attenuata</i> , <i>Grev.</i> | 43. <i>Ceramium</i> ———? |
| 19. <i>Batrachospermum atrum</i> , <i>H.</i> | 44. <i>Polysiphonia byssoides</i> , <i>Gr.</i> |
| 20. ———— <i>moniliforme</i> , <i>Ag.</i> | 45. ———— <i>violacea</i> , <i>Grev.</i> |
| 21. ———— <i>vagum</i> , <i>Ag.</i> | 46. <i>Bryopsis hypnoides</i> , <i>Lx.</i> |
| 22. <i>Dasya Arbuscula</i> , <i>Ag.</i> | 47. <i>Sporochnus rhizodes</i> , <i>Ag.</i> |
| 23. <i>Mesogloia multifida</i> , <i>Ag.</i> | 48. <i>Laurencia obtusa</i> , <i>Lx.</i> |
| 24. <i>Gelidium corneum</i> , <i>Lx.</i> | 49. <i>Enteromorpha intestinalis</i> , <i>Lk.</i> |
| 25. <i>Ulva crispa</i> , <i>Lightf.</i> | 50. <i>Bangia fuscopurpurea.</i> |

Several in this list are of great rarity, and others very local. Among the first we may mention *Gloiosiphonia capillaris* (of which Mr. M^cCalla's specimens are the finest we have ever seen), *Striaria attenuata*, *Batrachospermum atrum*, *Conferva rectangularis*, *Haliseris polypodioides*, *Helminthocladia Griffithsiana* and *Bryopsis hypnoides* (very fine); and among the latter, *Callithamnion pedicellatum*, *C. Arbuscula*, *Berkeleya fragilis*, *Dasya Arbuscula*, *Conferva Hutchinsia*, *Fucus balticus* and *Fucus Mackaii*. Besides these rarities there is one entirely new species, *Conferva Kaneana*, M^cC., a delicately beau-