24. In the case of the *Myxogastres*, sketches should be made on the spot of their general form, with details of microscopic appearance. It would be worth while attempting to preserve specimens for future microscopic examination by means of osmic acid.

25. *Algæ.*—Marine algæ may be found between tide-marks attached to rocks and stones, or rooting in sand, &c.; those in deeper water are got by dredging, and many are cast up after storms; small kinds grow on the larger, and some being like fleshy crusts on stones, shells, &c., must be pared off by means of a knife.

The more delicate kinds, after gentle washing, may be floated in a vessel of fresh water, upon thick and smooth writing or drawing paper; then gently lift out paper and plant together, allow some time to drip; then place on the sea-weed clean linen or cotton cloth, and on it a sheet of absorbent paper, and submit to moderate pressure—many adhere to paper but not to cloth; then change the cloth and absorbent paper till the specimens are dry. Large coarser kinds may be dried in the same way as land plants; or are to be spread out in the *shade*, taking care to prevent contact of rain or fresh water of any kind; when sufficiently dry, tie them loosely in any kind of wrapping paper; those preserved in this rough way may be expanded and floated out in water at any time afterwards. A few specimens of each of the more delicate algæ ought to be dried on mica or glass. A note of date and locality ought to be attached to every species.

Delicate slimy algæ are best prepared by floating out on smooth-surfaced paper (known as "sketching paper"), then allowed to drip and dry by simple exposure to currents of air, without pressure.

26. Very little information exists regarding the range of depth of marine plants. It will be very desirable that observations should be made upon this subject, as opportunity from time to time presents itself.

Professor Dickie remarks, and the caution should be borne in mind:—"When the dredge ceases to scrape the bottom, it becomes in its progress to the surface much the same as a towing-net, capturing bodies which are being carried along by currents, and therefore great caution is necessary in reference to any marine plants found in it. Sea-weeds are among the most common of all bodies carried by currents near the surface or at various depths below, and from their nature are very likely to be entangled and brought up."

27. Carefully note and preserve algæ brought up in dredge in moderate depth, under 100 fathoms or deeper. Preserve specimens *attached* to shells, corals, &c., which would indicate their being actually *in situ*, and not caught by dredge as it comes up.

28. Examine mud brought up by dredge from different depths for living diatoms; examine also for the same purpose the stomachs of *Salpæ* and other marine animals.

29. Note algæ on ships, &c., with the submerged parts in a foul condition; also preserve scrapings of coloured crusts or slimy matter, green, brown, &c.

30. Observe algæ, *floating*, collect specimens, noting latitude and longitude, currents, &c.

31. Examine loose floating objects, drift-wood, &c., for algæ. If no prominent species presents itself, preserve scrapings of any coloured crusts. Note as above.

32. It might be useful to have a few moderate-sized pieces of wood, oak, &c., quite clean at first, attached to some part of the vessel under water to be examined, say, monthly. The larger or shorter prominent algæ should be kept and noted, and crusts on such examined and preserved, with notes of the vessel's course.

33. Various instances have been mentioned by travellers of the coloration of the sea by minute algæ, as in the Straits of Malacca by Harvey; any case of this kind would be worth especial attention.

34. The calcareous algæ (*Melobesia*, &c.) are comparatively little known, and are apt to be overlooked.

35. Freshwater algæ should be collected as occasion presents. Professor Dickie states that they may be either dried like the marine kinds, or preserved in a fluid composed of 3 parts alcohol, 2 parts water, 1 part glycerine, well mixed.

36. Cases are recorded of the presence of algæ in hot springs. If such are met with, the temperature should be noted and specimens preserved.