

new forms which have now to be recorded from the Challenger collection, some may ultimately be found not to be specifically distinct, but to be different conditions of a species already known, distinctive names have been provisionally applied in all cases where the forms differ notably from one another, or from any hitherto recorded member of the genus.

Bacteriastrum brevispinum, n. sp. (Plate XV. fig. 8.)

Valvæ setis submarginalibus, numerosis (29) brevibus, lævibus, cuneatis, rectis. In mari Sinensi ad Hong-Kong.

This species occurs abundantly in surface gatherings made in the neighbourhood of Hong-Kong. It has the form of a large round hyaline disc, which is surrounded by numerous (twenty-nine) short, straight, radiately disposed, and gently cuneated thorns or setæ. These setæ cannot be regarded as the representatives of longer filaments that have become accidentally abbreviated, as their outermost extremities do not present the appearance of any truncation.

The specific name that has been applied has reference to the shortness of the spines.

Bacteriastrum brevispinum, n. sp., var. nov. (Plate XV. fig. 6.)

From the same locality the form represented in the present figure was obtained. It may be distinguished from the preceding by its smaller size, by being furnished with only ten radiating setæ, and by having the centre of the valve ornamented by a single granule, which may probably indicate that it has been terminal. Notwithstanding these differences, however, it can only be regarded as possessing a varietal significance.

Bacteriastrum wallichii, Ralfs, var. *hispidum*, nov. (Plate XXIII. fig. 3.)

This frustule cannot be viewed otherwise than as a variety of *Bacteriastrum wallichii*,¹ Ralfs, which is provided with "smooth, simple, divergent awns." In the Challenger form, on the other hand, the awns are not smooth, but are provided with manifest apiculi. This circumstance may be recalled by the varietal name *hispidum*, which has been proposed for this interesting form from the Arafura Sea.

On Plate XXIX. fig. 6, the same variety is represented from the neighbourhood of Hong-Kong.

Bacteriastrum spirillum, n. sp. (Plate XIX. fig. 2, and Plate XXIX. fig. 1.)

Setis submarginalibus tubulosis et spinularum spira decoratis. In mari Arafura.

The present figures show what is probably the terminal valve of the same species, of which perhaps they are two varieties. The curves of the awns in the one are slight and in

¹ = *Chaetoceros bacteriastrum*, Wallich, *Micr. Journ.*, vol. viii. pl. ii. figs. 16 and 17; Pritchard, *op. cit.*, p. 863.