

Also a species of *Nitzschia* from the same place, which form Grunow has described doubtfully as a variety of *N. reversa* (W. Smith), ('Verhandlungen der Kaiserlich-Königlichen Zoolog. Botanischen Gesellschaft in Wien.,' Band xii, 1862, tab. xviii, fig. 4). This distinguished microscopist had not seen specimens of *N. reversa*; if he had, his doubts as to the identity would have been confirmed. This form differs from *N. reversa* both in outline and in the character of its sculpture, so as to entitle it to be regarded as a distinct species. Mr. O'Meara suggested it should be named *N. Grunovii*.

Mr. B. Wills Richardson exhibited one of M. Nacet's cameras for making drawings of objects with the microscope in the upright position, the image being apparently projected in front of the stand. He (Mr. Richardson) spoke highly in favour of the use of this camera for drawing objects in cells containing fluid; for, as the slide lies "on the flat," there is but little risk of an object moving, which is so liable to occur during the use of cameras that require the compound body to be at a right angle to the uprights or pillars of the stand.

Mr. Archer exhibited, new to Ireland, the plane form (var. β) of *Aptogonum desmidium*, or, better, *Desmidium aptogonum* (Bréb.). This was taken, very sparingly, from a bog close to the town of Mullingar. It is very rare. The triangular form had been recorded from Connemara last year by Dr. Barker. Nothing could surpass, as a pretty object, a portion of a filament of this plane form, for its flatness admits of all coming into focus at once under a quarter-inch.—Mr. Archer likewise presented, new to Britain, *Arthrodesmus bifidus* (Bréb.), and in the same gathering. This is a very minute form, but one which cannot be confounded with any other. *Arthrodesmus tenuissimus* (Arch.) is somewhat like it in front view; but a side or end view of that form, showing the *pairs* of minute divergent spines, at once settles the matter; and though these two resemble each other in front view more than either seems to resemble any other form, the bidentate lobes of *A. bifidus* presents something quite distinct from *A. tenuissimus*, which latter is a species even still more minute.

Professor E. Perceval Wright exhibited *Dehitella atrorubens* of Gray. A small portion of this remarkable organism had been very kindly given to him by Dr. J. E. Gray, who had described it as follows:—"Sponge or coral, dichotomously branched, expanded, growing as a large tuft from a broad, tortuous, creeping base, of a dark brown colour, and uniform hard, rigid substance. Stem hard, cylindrical, opaque, smooth; branches and branchlets tapering to a point, cylindrical, covered with tufts of projecting horny spines on every side, those on the branches often placed in sharp-edged, narrow, transverse ridges; those of the upper branches and branchlets close, but isolated, and divergent from the surface at nearly right angles." ('Proc. Zool. Soc. London,' 1868, p. 579, fig. 1, p. 578.) This genus has been placed by Dr. Gray with a

second new genus, *Ceratella*, in a family called Ceratellidæ; and while strongly inclining to locate this family among the true horny sponges, Dr. Gray at the same time calls attention to the fact that many of the characteristics of the keratose sponges are not to be met with in the dry horny skeletons of the two species described.

On treating a small portion for some (thirty-six) hours with caustic potash, the only effect observed was a greater transparency of the keratose fibres, and perhaps a greater flexibility of the entire mass. There was no tendency, however, of the frame or network to break up into detached pieces, such as might occur if it were formed of a series of horny spicules united the one to the other; indeed, the skeleton must be looked upon as continuous.

On placing another portion in some weak nitric acid, effervescence at once occurred, and the coloured horny material pretty speedily disappeared, leaving, however, behind, a semi-transparent basis, which in great measure preserved the form of the original little twig, and which had all the appearance at first sight of being siliceous. On being placed on a glass slide, and covered with a piece of thin glass, it yielded to a slight pressure, and when examined under the microscope showed a gelatinous basis, in which were entangled a few biacerate siliceous sponge spicules, and a few diatoms (*Navicula*, *Pinnularia*, *Coscinodiscus*, *Amphitetras*), the former, without doubt, just as much foreign to the *Dehitella* as the latter.

On examining the structure after it has been gently boiled in distilled water for a few moments, it will be found to have absorbed a certain quantity of the water, so that even after it has been tightly pressed and flattened it will, on the pressure being removed, soon recover its shape. It would appear, however, that the so-called tufts of horny spines met with on the sides are really not so much spines as sharp-ending prolongations of the common skeleton; indeed, they cannot be called tufts of "spicules" in the ordinary meaning of this word, and the arrangement of the network will be best learned from the accompanying wood-cut (fig. 1). On making a transverse section of the stem it is apparent that the main fibres are continuous, and that thus there is a series of canals permeating the entire mass (fig. 2). The skele-

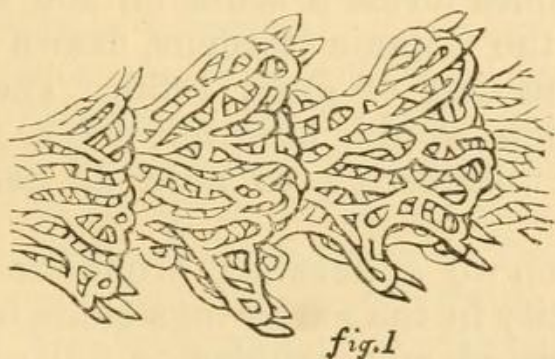


fig.1



fig.2

ton is to a certain extent regular; that is, it is made up of a series of long horny strands, which run almost parallel to one another, either terminating in a loop or in an obtuse point. The horny

fibres are obscurely striated, and, when young, are not only much lighter in colour, but also appear to be hollow. It will thus be evident that but little additional light can be thrown on this curious form, beyond that already thrown on it by Dr. J. E. Gray, until its rediscovery in a recent state; but Professor Wright trusted that, in exhibiting this specimen and detaining the Club with these remarks, he would not be considered as altogether wasting the time of the members, and he would simply now express his opinion that Ceratellidæ was a family of arborescent keratose sponges.

Mr. Archer showed *Cosmarium annulatum* (Näg.), seen by him for the second time only. The first occasion was in a gathering made in the "Rocky Valley," near Bray, and the present was made from pools near Mullingar; but as the species is very minute, it may have been overlooked in other localities.

Mr. Archer wished to record that he had since had an opportunity to make some collections from the same locality in County Westmeath from which Dr. Barker had obtained the remarkable plane form exhibited at the July meeting, which he (Mr. Archer) would refer to *Staurastrum gracile*, and that he had met with the triangular form, as well as the plane, in one of the gatherings, thus, he thought, fully bearing out the forecast he had made, and the views he had expressed; at least, so far as could be done pending the discovery of the zygospores, but which, indeed, might just possibly tend to decide the question in the other direction.

Mr. Archer likewise showed *Characium tenue* (Hermann).

Mr. Archer further drew attention to some extremely minute bodies of a crystalline appearance, occurring inside the cells of *Spirogyra nitida*. These floated just close under the spiral bands, presented a greenish hue, and were of a general cruciform or X figure, the arms very slender, and sometimes branched or feathered more or less; sometimes an H figure, with the horizontal connecting line produced beyond the vertical ones at both sides; the extremities, as in the cruciform ones, likewise somewhat branched. These were clearly not chlorophyll-granules, though showing a greenish tint.

Dr. Moore showed a gathering of the little minute unicellular clustered alga which sometimes forms a scum on the surface of the waters in the houses at the Botanic Gardens, drawn attention to by him at the Club meeting of July, 1866. The identity or naming of this production would, however, be a matter of great difficulty, but it was interesting to note its periodic recurrence.

Mr. Archer drew attention to a puzzling production he had lately noticed in some quantity in the gatherings made from pools near Mullingar. This consisted of a tabular or foliaceous, very variously shaped, frond (so to call it), composed seemingly of bacillar greenish bodies, held together in close approximation and in variously arranged positions, but so as to leave no irregular