

**Syrhipidograptus Nathorsti,
a new Graptolite Genus from the
Ordovician of Bornholm.**

By

Chr. Poulsen.

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Ansvaret for Afhandlingernes Indhold paahviler Forfatterne.

Through the great kindness of Professor K. A. GRØNWALL the Museum of Mineralogy and Geology of the University of Copenhagen, in January 1923, became the owner of a M. S., left by A. G. NATHORST, and treating observations made by him in Bornholm in the year 1869.

The M. S. contains some observations of considerable interest which I hope to be able to discuss on another occasion; in this small paper I shall only speak of a new graptolite genus which is by certain structural features strongly deviating from all hitherto known graptolites. The find was made in the brook, Læsaa, right outside of the lime-quarry of Soldatergaard.

NATHORST writes as follows: »På detta ställe fann jag i et nedfallit skifferstycke en *Dictyonema*, mycket olik de i alunskiffern förekommande. Två exemplar bredvid hvarandra tycktes vara fästade på en gemensam stjelk vinkelrätt mot densamma, samt utmärkte sig föröfrigt genom sina utskjutande grenar (celler) från hufvudgrenarne.« (In this place, in a piece of shale which had fallen down, I found a *Dictyonema*, highly differing from those appearing in the alum shale. Two specimens next to each other seemed to be attached to one and the same stalk with which they formed a right angle, and were furthermore characterized by the branches (cells) issuing from their main branches.)

NATHORST further adds a little sketch (see fig. 1)

Quite by chance the present author happened to find in the collections of the Museum of Mineralogy and Geology a piece of shale which had been collected by JOHNSTRUP in 1870, North of Vasagaard, according to the text of the label. The fossil contents prove the piece to

originate from the zone with *Climacograptus rugosus* TULLB. The shale contains among other things a graptolite which may very well agree with the form mentioned by NATHORST, even if it is in some details deviating from his sketch which is quite rough, perhaps drawn from memory. We have here to do with a new genus which ought to be referred to the Graptoloidea, though it agrees on certain points with the genera *Desmograptus*, *Dendrograptus*, and others.

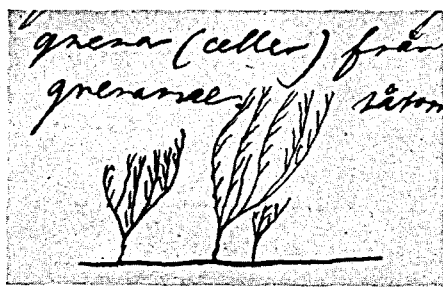


Fig. 1. *Syrrhipidograptus* Nathorsti.
The figure is reproduced from NATHORST'S M. S.

Description.

Syrrhipidograptus Nathorsti n. g. et n. sp.

Fig. 2 A-C.

The polyary fanshaped, most probably originally cup-shaped. The ramification dichotomous, more rarely trichotomous or irregular. The branches slender, often anastomosing, uniserial¹⁾. The thecae monomorphic, in shape like faintly curved, mutually free tubes, twice as long as broad, forming with the branch an angle of c 60 degrees. Their breadth almost like that of the branch. The rim of the aperture straight, almost in a right angle with the longi-

¹⁾ The state of preservation not being the very best, branches, lying upon each other and covering each other, will easily look like anastomoses. This is, however, so frequently repeated that we must conclude on a real connection between the branches.

tudinal axis of the tube. 12 thecæ go to each cm. of the branch. Their situation, probably as in *Dictyograptus*, on the insides of the branches, i. e. turning towards the centre of the polypary.

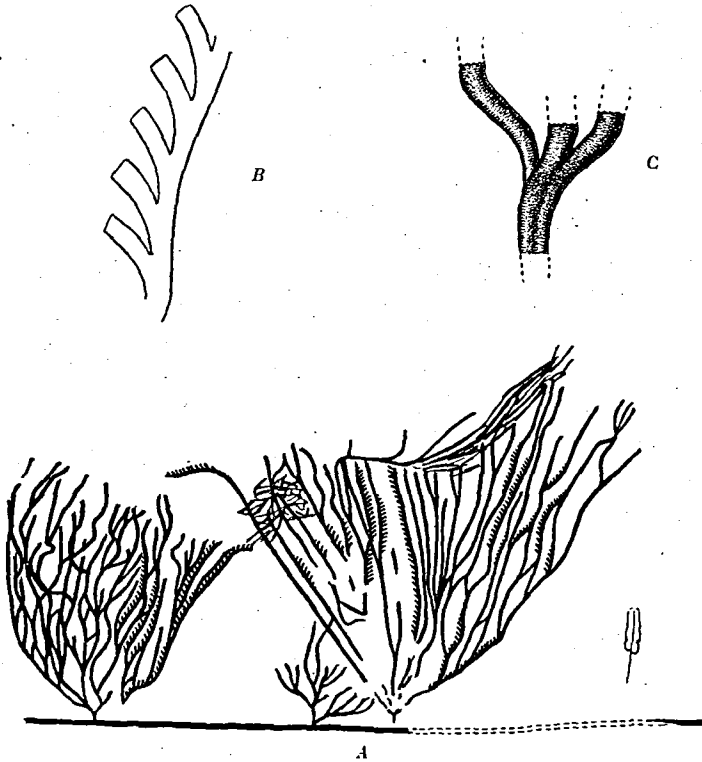


Fig. 2. *Syrrhipidograptus Nathorsti*.

A: The polyparies connected with the axis. $\frac{2}{1}$.

B: Part of a branch, showing the outline of the thecæ. $\frac{9}{1}$.

C: The proximal part of the polypary. $\frac{22}{1}$.

What is especially characteristic to the graptolite, here described, is that several polyparies (in the present case 3) issue from a long, almost rectilinear common axis. The axis which is twice as broad as the branches, no doubt belongs to the graptolite, as it is of exactly the same graphitic substance. NATHORST'S find, mentioned above,

also speaks for this conception. It has not been possible to substantiate whether the axis was provided with thecae or something of that kind.

The largest of the polyparies is separated from the axis through a very small interval, its proximal part has been reshaped in pyrite and appears in relieve. This latter part shows that the older branches (only 3 are visible) are much more slender than the younger, and proximally forming a short main trunk.

The features, described in this paper, have not, as mentioned above, been met with before in any graptolite, not even in the nearly related *Dictyograptus*. In the latter genus only isolated polyparies have been found, proximally ending in a sicula of the ordinary type characteristic to real graptolites. Unfortunately, it is impossible in the specimen at hand of *Syrrhipidograptus Nathorsti* to state whether the initial part of the polypary has had any normal sicula shape or not. In the first case, there is nothing to prevent us from supposing a similar common axis to be found in *Dictyograptus*, from which the polyparies could have been separated, in order to pass on to a more or less pelagic mode of life. We are, at any rate, justified in comparing the above described fragments of *Syrrhipidograptus* with the synrhabsosomes from the Utica-shale, described by RUEDEMANN.

When the genus *Syrrhipidograptus* is placed among the graptolites proper, in spite of its agreement with the dendroid graptolites, it is because the thecae are monomorphic, a character which, according to the hitherto available definitions, points to Graptoloidea.

Partly for this, partly for other reasons WESTERGÅRD has come to the result that *Dictyograptus flabelliformis* EICHW. belongs to the group Graptoloidea¹⁾. The

¹⁾ A. H. WESTERGÅRD: Studier öfver dictyograptusskiffern, Lunds Universitets Arsskrift. N. F. Afd. 2. Bd. 5. Nr. 3.

gotlandian species which were formerly referred to the genus *Dictyograptus*, decidedly belong to the *Dendroidea*, as they are provided with trimorphic thecæ. WESTERGÅRD for these species proposes the genus name *Dictyodendron*, whilst the name *Dictyograptus* is maintained for *Dictyograptus flabelliformis* EICHW. This latter, our oldest graptolite, is placed among the *Dichograptidae*, as it is without virgula, like the other members of this family. This is also the case with *Syrrhipidograptus* which is the one of the hitherto known graptolites being in the closest relationship with *Dictyograptus*.

It therefore seems natural to me to refer also *Syrrhipidograptus* to *Dichograptidae*. It is, however, possible that future investigations will entitle us to establish a new family, *Dictyograptidae*, an idea that has already been intimated.

Copenhagen, April, 1924.
