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# **A transatlantic bryozoological spat: Edward Oscar Ulrich (1857–1944) versus George Robert Vine (1825–1893)**

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Ever since the commencement of scientific publication the views of the authors have been available to others to agree with or to find fault with. Without scientific debate it is unlikely that major scientific advancements could have been made. The differences of opinion of a number of scientific combatants have in the past led to long-term animosities. In the field of geology and palaeontology there are a number of well-known instances: James Hutton produced an abstract of his ideas on the history of the Earth in 1785, but was stung into publishing his full-length *Theory of the Earth* in 1795 following criticism leveled at him by various opponents including the Irishman and chemist Richard Kirwan (McIntyre 1997, Wyse Jackson 1998). The two close-friends and stratigraphers Adam Sedgwick and Roderick Impey Murchison, who together named the Devonian in 1839, ultimately fell-out when the latter's Silurian encroached on the former's Cambrian successions (Secord 1986). During the so-called 'Bone-wars', that raged in the United States during the late-nineteenth century, Edward Drinker Cope and Othniel Charles Marsh argued over the reconstructions and significance of many dinosaur specimens that each had discovered (Shor 1974, Jaffe 2000).

In the field of bryozoology, differences of opinion on scientific data and ideas do appear in printed publications, but rarely have proponents written papers that included strong personal attacks on another individual's scientific ability and character. One such passage appears in a paper published in 1884 written by the American palaeontologist Edward Oscar Ulrich (1857–1944) who took strong issue with the work of the English amateur palaeontologist George Robert Vine (1825–1893).

Ulrich was born near Cincinnati, Ohio and at an early age became fascinated with fossils. He went on to become the most celebrated bryozoologist of his generation. He produced a large volume of work on fossil faunas from various parts of the United States of which his monographs on the bryozoans of Illinois and Minnesota are his most important (Cuffey *et al.* 2002). Of value also is his series on American Palaeozoic Bryozoa published in parts in the *Journal of the Cincinnati Society of Natural History* between 1882 and 1884. It is in the issue of April 1884 that he launched his attack on Vine in a footnote that straddled pages 36 and 37:



Figure 1. Edward Oscar Ulrich in Washington, D.C.  
(Image from Dorothy Soule Collection in the care of Patrick Wyse Jackson)



Figure 2. George Robert Vine.  
(Photograph courtesy Sheffield Libraries, Archives, and Information; Local Studies Section) [From Buttlet et al. 2002]

In the same report [Fourth British Association report on Bryozoa, 1884] Mr. Vine also proposes the family *Arcanoporidæ*, of which he makes his *Ptilodictya lonsdalei* the type. This species he also makes the type of *Ptilodictya*, although the fact is unquestionable that Lonsdale founded the genus upon Goldfuss' *Flustra lanceolata*. But such a substitution of types is entirely out of the question, and not to be considered for a moment. Furthermore his fam. *Arcanoporidæ*, in its type, is an exact synonym for Zittel's *Ptilodictyonidæ*, since *P. lonsdalei* is a *Ptilodictya*, and that the genus is the type of Zittel's family. This is a needless duplication of names, and with my work on that family before him, is really inexcusable. I used and defined the genus *Ptilodictya* as typified by the *P. lanceolata*, Goldf. Sp., which is also Lonsdale's types. Mr Vine charges that the characters which I give as a diagnosis are not those of Lonsdale. To this I answer, that the characters he ascribes to the genus are no more Lonsdale's than are mine, and because that author misunderstood the characters of the genus is certainly no reason for me to do likewise (Ulrich 1884, p. 36).

Scattered throughout early papers on bryozoans are poorly defined taxa but by the 1880s a considerable effort was made to understand the defining characteristics of these early taxa through the utilization of thin-sections. Ulrich was a pioneer of such studies and produced his own sections himself (Boardman 2008). It is hardly surprising that the

unraveling of taxonomic problems was at the forefront of Vine and Ulrich's work, and that differences of opinion predominated. Ulrich is of course right that there was no reason to change the type species of *Ptilodictya* as Vine (1884) with no solid justification had tried to do. According to Karklins (1983, p. 490) *Flustra lanceolata* Goldfuss, 1829 is the type species of *Ptilodictya* Lonsdale, 1839 by original designation and this genus is the type of the family Ptilodictyidae Zittel, 1880, as Ulrich had argued. Vine's taxonomy is clearly muddled and misguided.

If one considers these remarks of Ulrich to be intemperate, then reading the passage further which is directed at Vine's understanding of taxonomy, shows them to be mild. He went on to attack Vine's abilities as a scientist:

Mr. Vine's conclusions on British Bryozoa, in so far as they have reference to palaeozoic forms, differ in most cases from my own. Their faultiness is often so manifest that I am forced to the conviction that he did not give these intricate forms the study they demand. For instance, it is very evident that he did not understand the characters of *Cystodictya parallela* (*Arcanopora parallela*, Vine), or he would not have placed it in such close proximity to *Ptilodictya lanceolata*. These two species resemble each other only in the possession of zooecia, and a double-leaved zoarium. In other respects they are no more than remotely related (Ulrich 1884, pp. 36–37).

Vine had relied on the grossest of external features seen in the two taxa to make his taxonomic comparisons. *Cystodictya parallela* was originally named *Flustra parallela* by John Phillips in 1836 and is recognized as the cystoporate *Sulcoretepora parallela* (Phillips, 1836) (Wyse Jackson 1996, p. 158) and the type species of *Sulcoretepora* d'Orbigny, 1849. *Sulcoretepora parallela* has a range within the Carboniferous and so is much younger than *Ptilodictya lanceolata* which occurs in the Silurian.

Ulrich continued with a remark on the genus *Polypora* which Vine had annexed from *Fenestella* and placed in his new family Polyporidae. However, Ulrich's final barbed comments must have cut deepest:

On the whole, I believe that Mr. Vine's knowledge of Palaeozoic Bryozoa is not unlimited, although the unsuspecting student might, from his style, be led to believe that he had, at least, aided in the creation of the Bryozoa. I confess that I have not been so impressed, and, if I may be so bold, I should suggest that Mr. Vine extend his researches to other than British material. The almost endless number and variety of American forms are to be recommended (Ulrich 1884, p. 37).

Vine was a working class stay- or corset-maker, who lived in Sheffield for much of his adult life. Following an interest in palaeontology sparked when he worked in Ireland, Vine began to study bryozoans. He quickly realized that these were poorly studied in Britain and that he could augment his income through preparing and selling specimens (Buttler *et al.* 2002, Wyse Jackson *et al.* 2003). Ironically Ulrich who was employed as a peripatetic palaeontologist by various State Geological Surveys before he got permanent

The above passage must have been written in a bitterness of spirit - and Mr. Ulrich must have misunderstood my motives. His friends regret the writing and I believe that Mr. U has since regretted also. There has been no retaliation on my part. S.R.V.

Figure 3. Vine's handwritten response to Ulrich's criticism. These notes are found at the bottom of page 37 on Vine's copy of the April 1884 paper on American Palaeozoic Fossils which Ulrich had sent to him. (Author's personal collection)

employment in 1897 with the United States Geological Survey (Ruedemann 1946), also prepared and sold bryozoans, particularly thin-sections. A large suite of his material is now in the Natural History Museum, London. Vine was proud of his work and was delighted when the Geological Society of London marked his efforts with the award in 1881 of the Lyell Fund (Buttler *et al.* 2002, p. 7). An assessment of his studies suggests that he was too quick to erect species, and was a poor illustrator. Ulrich on the other hand was meticulous and was a draftsman of exceptional skill as an examination of his numerous and lengthy publications testify, although as Boardman (2008) has noted he tended to group his specimens together first on external features, then section a few to gather details of internal features. Subsequent sectioning by later workers of specimens from a type suite has revealed them to belong to several genera.

It is certain that Ulrich was somewhat put-out when he discovered that Vine had in 1884 without permission published one of his (Ulrich's) manuscript names and had actually misspelt the species *Streptotrypa nicklisi* (rather than *nicklesi*) (see Wyse Jackson 1991 and Hageman 1993) and perhaps this led him to write his forthright assessment of Vine's work. Certainly Ulrich could be abrasive and once said of himself that "I always develop my ideas going out with others and disputing theirs." (quoted by Ruedemann 1946, p. 259).

The two men corresponded and sent each other specimens (Ulrich 1884, p. 26) as well as copies of their papers. In my possession is Vine's personal copy of Ulrich's 1884 paper in which the above passages were published. No doubt on reading them for the first time the Englishman must have been greatly upset, but he took the criticism well, and on his copy wrote the following on page 37 beneath the offending footnote (Figure 3):

The above passage must have been written in a bitterness of spirit – and Mr. Ulrich must have misunderstood my motives. His friends regret the writing and I believe that Mr U has since regretted also. There has been no retaliation on my part.

GRV.

It has to be assumed that following this testy episode in 1884 that the two bryozoologists remained rather wary of each other. Vine writing in 1888 attempted to explain and defend his classification but took a conciliatory and somewhat subdued stance. He believed that differences in classifications erected by him and by Ulrich came about because he was working at the zooecial scale whereas Ulrich was interested in the zoarial scale, and he recognized that both men had selected different defining characters for genera. It was a prevalent problem in taxonomy and the true understanding of generic and species recognition is still debated today. Vine remarked that:

If, therefore, we are to depend upon the structure of the interspaces, all of which were well known to me long before I wrote [in 1884], for our generic divisions then Mr. Ulrich is right and I am wrong; but if the cell or *Zoæcia* is to form the basis of our suggested divisions, then our work must be left to the convenience or the inclination of future workers (Vine 1888, pp. 30–31).

In fact it is not unreasonable to suggest that both zooecial and zoarial characters may be considered important in defining various taxonomic ranks, and if this is accepted then both Vine and Ulrich can leave the arena moderately unscathed.

A shortcoming in his early work that Vine admitted, was that he had not been aware of the diversity of the American fossil bryozoan fauna which was only brought to his attention in 1879 or 1880 and that:

Had I been aware of these I should have been more careful before committing myself to a peculiarly British, rather than a general classification (Vine 1888, p. 26).

He went on to try and smooth the relationship with Ulrich further noting that following the publication of the papers on American Palaeozoic Bryozoa:

From the first I hailed the publication with pleasure, but although I have differed from Mr Ulrich in his estimate as to what are and what are not Bryozoa or Polyzoa, no offence on my part was contemplated (Vine 1888, p. 28).

After his printed outburst of 1884 Ulrich kept his own council but attempted to heal any transatlantic divisions when he erected the species *Pinnatopora vinei* [= *Penniretepora vinei*] (Ulrich 1888, p. 78) and then the genus *Vinella* in 1890 (Ulrich 1890, p. 173). While George Robert Vine must have been pleased with these honours, it is noticeable that he never reciprocated in naming any taxa for Edward Oscar Ulrich (Buttler *et al.* 2002, p. 25).

Today palaeobryozoologists frequently recall the contributions of these two men who were responsible for naming two of the stenolaemate Orders: Cryptostomata Vine, 1884 and Trepostomata Ulrich, 1890.

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