

**Comments on the proposed conservation of the specific names of *Dianulites petropolitana* Dybowski, 1877 and *Diplotrypa petropolitana* Nicholson, 1879 (Bryozoa)**

(Case 3160; see BZN 58: 215–219)

(1) Nils Spjeldnaes

*Department of Geology, University of Oslo, P.O. Box 1047, Blindern, N-0316 Oslo, Norway*

I have discussed at length with the authors the nomenclatural problems involved in this submission about *Diplotrypa* Nicholson, 1879, but we do not agree; I therefore submit my differing views on the subject.

1. The genus *Diplotrypa* was established (as a subgenus of *Monticulipora*) by Nicholson (1879). He gave a more detailed description in (1881). He made *Favosites petropolitana* Pander (1830) the type species; his description is not based on topotype material, but on material from the Upper Ordovician of Sweden, given to him by Professor G. Lindstrom. As indicated by the name, the original type material (which

is now lost) of *petropolitana* came from the St Petersburg area in Russia. Dybowski (1877) redescribed *petropolitana* Pander based on topotype material. His version of the species is entirely different from that of Nicholson. In modern terminology, they do not even belong in the same suborder.

2. Nicholson in his 1881 book refused to accept the validity of Dybowski's redescription of *Favosites petropolitana*, even though he knew about both Steinmann's criticism (1881, p. 22) and the Rules (then of palaeontological nomenclature).

3. Nicholson's books (1879, 1881) had represented a great progress in the methodology in describing Early Palaeozoic bryozoans, and the result was that the dominating American scientists in the field (Ulrich and Bassler) accepted not only his methods but also his questionable nomenclature.

4. In Europe Dybowski's solution was partly accepted, and a species called *petropolitana* was referred to *Diplotrypa* (following Nicholson) and *Dianulites* (as suggested by Dybowski).

5. The issue is complicated by the fact that Nicholson earlier (1876, p. 86, pl. V, fig. 6) and in the second edition of his *Manual of Palaeontology* (1879, vol. 1, p. 202, fig. 90) described and illustrated (from thin sections) '*Chaetetes petropolitanus* Pander'. In both cases the bryozoan is widely different from his Swedish material (in Nicholson 1879 and 1881), but evidently belonging to the genus *Prasopora* Nicholson & Etheridge (1877). None of these descriptions (and others where *petropolitanus* is mixed up with *whiteavesi* Nicholson 1881), are from topotype material.

6. The suggestion (first put forward by Bassler in 1911; see para. 6 of the application) to accept two *petropolitana* species — *Diplotrypa petropolitana* Nicholson, 1879 and *Dianulites petropolitana* Dybowski, 1877 — is, in my opinion not appropriate since it would accept Nicholson's breach of the Rules, and would follow not the first, but the second (or third) of his versions of *petropolitana*.

7. Dybowski referred his taxon to the genus *Dianulites* Eichwald. The type species of this genus, *D. fastigiatus*, has recently been redescribed by Taylor & Wilson (1999). It is rather different from the widespread group of hemispherical bryozoans with the same microstructure as Dybowski's version of *petropolitana*, which will lack a generic name if Nicholson's version is accepted.

8. It should be noted that Dybowski's methods were as advanced as Nicholson's. They both used thin sections but Nicholson's morphological terminology was later generally accepted. Dybowski's opinion on *petropolitana* was probably the accepted one in the Baltic Region.

9. Lonsdale (in Murchison, 1845) described and figured *Chaetetes petropolitanus* from the St Petersburg Region. The figured thin section, preserved in The Natural History Museum, London, belongs to the same group, or perhaps even the same species, as that described by Dybowski.

10. If *Diplotrypa* is accepted with Nicholson's 1879 and 1881 definition, based on the Swedish material, this will raise another nomenclatural problem. I have studied Nicholson's original thin sections, together with extensive material of similar hemispherical bryozoans from the Balto-Scandic Region, and the types definitively belong in the family HALLOPORIDAE. Hall (1851) named a genus *Calopora* but, because of homonymy, it was renamed *Hallopora* by Bassler (1911). *Diplotrypa*, if defined according to Nicholson (1879 and 1881), will have priority over both *Hallopora* and

a number of genera of Ordovician halloporids. Since Nicholson's types — like many hemispherical bryozoans — lack most of the distinctive characters for determining both genus and species, the correct placement will depend on finding new and better preserved material. This may easily lead to rejection of *Hallopora*, one of the commonly used generic names of Ordovician halloporids.

11. In my opinion, the optimal solution will be to follow the Code strictly, accepting Dybowski's (and Lonsdale's) interpretation of *petropolitana* Pander, and reserving the name *Diplotrypa* for this group. The material falling under Nicholson's interpretation can easily be accommodated in the genus *Panderpora* Bassler, 1953, with the type species *dybowskii* Bassler, 1911, which in my opinion is a subjective synonym of *Diplotrypa* in the sense of Nicholson (1879).

### Additional references

- Hall, J.** 1851. New Genera of Fossil Corals. *American Journal of Science and Arts*, (2)**11**: 398–401.
- Lonsdale, W.** 1845. Description of some characteristic Palaeozoic corals from Russia. In Murchison, Verneuil & Keyserling, *Geology of Russia in Europe and the Ural Mountains*, 1: 591–634.
- Nicholson, H.A.** 1876. Notes on the Palaeozoic Corals of the State of Ohio. *Annals and Magazine of Natural History*, (4)**18**: 85–95.
- Nicholson, H.A.** 1879. A manual of palaeontology, Ed. 2. 511, 531 pp. Blackwood, Edinburgh and London.
- Nicholson, H.A. & Etheridge, R.** 1877. On *Prasopora grayae*, a new genus and species of Silurian corals. *Annals and Magazine of Natural History*, (4)**20**: 388–392.
- Steinmann, G.** 1882. Referat von: Nicholson, H.A. 1881. *Neues Jahrbuch für Geologie, Mineralogie und Palaeontologie*, **1882**: 314–319.
- Taylor, P.D. & Wilson, M.A.** 1999. *Dianulites* Eichwald 1829: an unusual Ordovician bryozoan with a high-magnesium calcite skeleton. *Journal of Paleontology*, **73**: 38–48.

(2) Patrick N. Wyse Jackson

*Department of Geology, Trinity College, Dublin 2, Ireland*

Caroline J. Buttler

*Department of Geology, National Museums and Galleries of Wales, Cathays Park, Cardiff CF10 3NP, Wales, U.K.*

Marcus M. Key, Jr.

*Department of Geology, Dickinson College, Carlisle, Pennsylvania 17013-2896, U.S.A.*

We welcome this opportunity to comment on some of the points (above) made by Prof Nils Spjeldnaes who we feel has misunderstood the reason for our application in the first place.

In our application we have simply asked the Commission to set aside the authorship of the specific name *petropolitana* Pander, 1830, which had been used subsequently as the specific name for two very different bryozoan taxa in the genera *Dianulites* and *Diplotrypa*, and to conserve the names and authorship of these specific concepts which are in line with 20th century conceptual usage. This is particularly important given that *Diplotrypa petropolitana*, in the taxonomic sense of Nicholson

(1879), is the type species of *Diplotrypa*. As it is uncertain what species Pander (1830) originally described, our request has been made in order to avoid potential future confusion over the issue.

Below we address some of the comments made by Spjeldnaes which we feel require clarification:

In 1877 Dybowski in describing some hemispherical bryozoans from the Baltic region used the name *Dianulites petropolitana* (Pander, 1830) for one such taxon. He provided a good description based on internal and external features and illustrated the major characteristics of the taxon. It is asserted by Spjeldnaes that Dybowski had priority over the name *petropolitana* (Pander, 1830) by virtue of his revision and that Nicholson in 1879 when he erected the genus *Diplotrypa* chose to ignore this. There is no evidence to suggest that Nicholson knew of Dybowski's publication when he published his book two years later. In any case, priority is not applicable in this case as Pander's (1830) name was used by both authors for two quite distinct bryozoan taxa. Neither had any idea of the true attribution of Pander's species as his descriptions are of external colony morphology only and none of the characteristic internal features were originally described or illustrated.

Subsequently Nicholson (1881) acknowledged Dybowski's work but still regarded his 1879 concept of *petropolitana* to be valid. Although Nicholson in earlier works (1874, 1875a, b, c, 1876) used the name *petropolitana* with *Chaetetes* he later (1881) regarded this as belonging to his species *Diplotrypa whiteavesii* Nicholson, 1879. At that time there was a great deal of confusion regarding the correct identity of many Lower Palaeozoic hemispherical bryozoans. It is the concept of the name as applied by Nicholson in 1879 as the type of *Diplotrypa* that is critical, not earlier misapplications of a specific name.

Spjeldnaes points out that many species presently in *Dianulites* do not resemble the turbinate-shaped type species *D. fastigiatus*. This is certainly true, but his assertion that they will lack a generic name if Nicholson's concept of *petropolitana* is accepted is not correct, as two distinct taxa are being confused. Nicholson's concept of *petropolitana* was never allied to *Dianulites*. It is possible that all non-turbinate *Dianulites* species may need to be accommodated in a new genus. Spjeldnaes's comments on methodologies are not relevant to this case. Reference is made to Lonsdale's (in Murchison, 1845) description of *Chaetetes petropolitanus*. We have examined this specimen in The Natural History Museum, London and it is referable to *Dianulites*. It has no bearing on our application.

Spjeldnaes is concerned that nomenclatural problems will arise with regard to the family HALLOPORIDAE Bassler, 1911, if Nicholson's definition of *Diplotrypa* is accepted. We can only assume that he believes that *Diplotrypa* becomes the type genus of the family by virtue of being the earliest described genus contained within it. This is not the case. The genus *Diplotrypa* as erected by Nicholson is certainly valid and conceptually sound. The type genus of the family HALLOPORIDAE is *Hallopora* Bassler, 1911 (= *Calopora*), and not the older genus *Diplotrypa*. Revision of the authorship of the type species of *Diplotrypa* from Pander, 1830 to Nicholson, 1879 does not affect this issue at all.

In coming to his conclusions Spjeldnaes acknowledges that Dybowski's and Nicholson's concepts of the species they described are entirely different. We quite agree and our application hinges on this.

Spjeldnaes has proposed the rejection of Nicholson's name (and concept) of the species *petropolitana* and the adoption of Dybowski's name (and therefore concept) of *petropolitana* as type species for *Diplotrypa* Nicholson, 1879. Such a course of action would be incorrect and invalid, as Dybowski's concept of *petropolitana* is different from that of Nicholson, and does not belong in *Diplotrypa*, but rather in *Dianulites*. Indeed, this action would lead to the disappearance of *Diplotrypa* Nicholson, 1879, which (contrary to its description) would become a junior synonym of *Dianulites* Eichwald, 1829, and would (as documented in para. 6 of our application) be contrary to the usage of names throughout the 20th century. In our original application we have asked that Pander's authorship of the name be set aside, and that authorship of the type species of *Diplotrypa* be attributed to Nicholson, 1879; this preserves the usage of *Diplotrypa* and its type species.

### Additional references

- Nicholson, H.A.** 1874. Descriptions of some species of *Chaetetes* from the Lower Silurian rocks of North America. *Quarterly Journal of the Geological Society of London*, **30**: 499–515.
- Nicholson, H.A.** 1875a. *Report upon the palaeontology of the province of Ontario*. Hunter, Rose & Co., Toronto.
- Nicholson, H.A.** 1875b. On some massive forms of *Chaetetes*, from the Lower Silurian. *Geological Magazine*, (2)**2**: 175–177.
- Nicholson, H.A.** 1875c. Description of the corals of the Silurian and Devonian systems. *Palaeontology of Ohio*, vol. 2, part 2 (Palaeontology), pp. 181–242.
- Nicholson, H.A.** 1876. Notes on the Palaeozoic corals of the state of Ohio. *Annals and Magazine of Natural History*, (4)**18**: 85–95.

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