PROPOSED USE OF THE PLENARY POWERS TO VALIDATE THE GENERIC NAMES "TRINUCLEUS" MURCHISON, 1839, AND "TRETASPIS" M^{C}COY, 1849 (CLASS TRILOBITA)

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The purpose of the present application is to ask the International Commission on Zoological Nomenclature to validate the well-known generic name *Trinucleus* (Class Triolobita) as from Murchison, 1839, and the name *Tretaspis* as from M^{C}Coy, 1849. For the first of these purposes the use of the Plenary Powers will be needed to suppress the unidentifiable generic name *Trinucleus* Link, 1807, with the specific name *tuberculatus* published by Link in the combination *Trinucleus tuberculatus* on the same occasion. For the second of these purposes the suppression is required of the name *Tretaspis* Murchison, 1839, which, as a junior objective synonym of *Trinucleus* Murchison, 1839, is not required but which at present invalidates the established name *Tretaspis* M^{C}Coy, 1849.

2. The name *Trinucleus* was first used by Link (1807 : 6) for two trilobite fragments previously illustrated by Walch (1776, Pl. 4, figs. 2, 3). These fragments, which Link named *Trinucleus tuberculatus*, are considered to be specifically and generically unidentifiable (Shaw and Stubblefield, 1950).

3. The next use of the name *Trinucleus* was by Murchison (1839) and the relevant passage with its footnote is quoted below (Murchison, 1839 : 217) :-

. . we meet with other forms, including the *Trinucleus*[1], Llhwydd [sic], a genus never observed in the Upper, yet abounding in the Lower Silurian rocks, particularly *T. Caractaci*, Nob., Pl. 23. fig. 1 . . .

[1] Fragments and imperfect specimens only of these Trilobites having been published, I was about to name this genus *Tretaspis* from τρητὴ ἀσπὶς, a shield perforated or deeply sculptured on its margin, for such is the leading generic distinction ; when considering that an unquestionable species of this genus was long ago figured by Llhwydd (*Lythophyl. Brit. Ichnogr.*, 1699, p. 97, t. 23) as *Trinucleus, fimbriatus*, I have in obedience to the practice of the best zoologists retained the original name.

4. This passage is interpreted as :—

(a) expressing the author's intention to name the genus being discussed *Trinucleus* ;

(b) rejecting the still-born name *Tretaspis* Murchison, 1839 ;

(c) quoting, but not as reinforcing by acceptance or adoption of the pre-Linnean species-name *Trinucleus fimbriatus* Lhwyd, 1699.

5. Later in the same work Murchison (1839 : 659—660) states, below the generic heading *Trinucleus* (" a new genus under an old name "), after the description of " *Trinucleus Caractaci* (n.s.) " and following the subheading " *Trinucleus fimbriatus* (n.s.) Pl. [23], f. 2 " and the description of that species, " This is probably the same species figured by Lhwyd [sic], Epist. 1, p. 9, t. 23. I have never found it entire, but the caudal extremity occurring in the same fragment of rock with the buckler, and both agreeing with the fig. of Lhwyd, I have considered them as parts of the same species . . . Loc. near Welsh Pool and Builth ".

6. The nominal species *Trinucleus fimbriatus* was selected as the type species of the genus *Trinucleus* Murchison by Vogdes in 1890 (:84). It is important therefore that there should be no doubt as to the identity of the species so named. On the basis of the interpretation given in paragraph 4 above, the name *Trinucleus fimbriatus* is to be regarded as applying to the specimens which Murchison had before at the time when he published this name, and is not to be treated as a mere re-publication of the pre-Linnean name consisting of the same combination published by Lhwyd in 1699. This is fortunate for two reasons ; first, because Lhwyd's specimens cannot now be traced but were certainly not referable to the same species as Murchison's ; second, because a slab from the Murchison Collection, preserved in the Geological Survey Museum in London, registered as Geol. Soc. Coll. 6836, is labelled " *Trinucleus fimbriatus*. Sil. Syst. pl. 23, fig. 2b & c. Spec. figd. Llandeilo Flags, Gwern y fad [Gwern y fed bach] Nr. Builth. R.I. Murchison Esq ". There is no evidence that the writing on the label is that of Murchison ; the label was written before 1911, in which year the Geological Society's collection was given to the Geological Survey ; but since Murchison was knighted in 1863 it is reasonable to suppose that the label was written before 1863, also that the slab may contain some of Murchison's syntypes of this species. The slab agrees, moreover, with the rock fragment mentioned by Murchison in the note quoted above in paragraph 5 above. Murchison's original illustration [1839 : Plate 23, fig. 2] is of a slab containing several fossil fragments of which three were indicated respectively by the artist as a, b, and c. The specimen illustrated as fig. 2c is a pygidium [caudal extremity] which was re-identified by Salter [1853 : Decade 7, pl. 7, p. 8] as *Ampyx nudus* Murchison and thus, though forming one of Murchison's syntypes of *T. fimbriatus*, can no longer be acceptable as a lectotype of that species. As stated earlier, the rock fragment

is documented as showing the original of fig. 2b, a fragment of cranidium ; doubt exists, however, concerning the identity of the more complete cranidium [buckler] with fig. 2a. There are reasons, nevertheless, for believing that Murchison's illustration of this rock fragment was diagrammatised since the relationship on the slab between the fossils resembling figs. 2a and 2c are approximately as in the illustration but the position of fig. 2b is not as on the slab, nor are the positions of the remaining fossil fragments as they are drawn. Notwithstanding these apparent discrepancies, if the label documentation is correct as far as it concerns fig. 2b and 2c, the more complete cranidium [the buckler] must certainly be a syntype and it is probably the original of fig. 2a which either has been damaged since Murchison's illustration was drawn or the drawing was completed from the additional evidence of another specimen. This more complete cranidium is here selected as the lectotype of *Trinucleus fimbriatus* Murchison, the interpretation of that species being thus placed on a firmer basis.

7. The name *Trinucleus* has been widely and continuously used since Murchison's day in both palaeontological works and in text books of a more general nature. The family name TRINUCLEIDAE was proposed in 1844 and likewise accepted and widely used. Though some have argued correctly (in personal communications) that the name *Trinucleus* has been used in the past in too wide a sense, the restricted usage of today has been clearly understood for many years (see Raymond, 1913 : 711 ; Størmer, 1930). The case for requesting that the name *Trinucleus* Murchison, 1839, be conserved, and the unused name *Trinucleus* Link, 1807, be suppressed, is clear and strong. The substitute name *Edgellia* Shaw (A.B.), 1950 (*in* Shaw & Stubblefield, *J. Paleont.* **24**(5) : 624) has not won acceptance and its adoption would lead to serious disturbance in current practice. At the same time that the name *Trinucleus* Link is suppressed the unidentifiable name *tuberculatus* published by Link in the combination *Trinucleus tuberculatus* on the same occasion should also be suppressed.

8. In 1849 (:410) M^{c}Coy proposed the name *Tretaspis* for a new genus of trilobites, citing two species, the first mentioned of which was *Asaphus seticornis* Hisinger, 1840 (: 3) later selected as the type species by Bassler (1915 : 1285). The name *Tretaspis* has been widely used in both Europe and America (Ruedemann, 1901 : 41) for many years, especially since Størmer (1930 : 55) redescribed the type species in detail. For fifteen or more years Scandinavian geologists have been using the term " *Tretaspis* shales " for rocks in which this genus occurs, rather than the older term " *Trinucleus* shales " (" *Trinucleus* " being used here in a generalised sense). There seems to be an equally strong case, therefore, for requesting that the name *Tretaspis* be conserved as from M^{c}Coy, 1849, by the suppression under the Plenary Powers of the name *Tretaspis* Murchison, 1839, which, as has been explained, has never been used.

9. Each of the generic names dealt with in the present application has been taken as the base for a family-group name. The first of the genera concerned is, as has already been noted (paragraph 7 above), the type genus of the universally recognised family TRUNUCLEIDAE. This family-group name is always treated by writers on trilobites as having been first published by Emmrich (H. [F.]) in 1844 (*Zur Naturgeschichte der Trilobiten* : 17). Emmrich published this name in the form TRINUCLEEN, which has the appearance of being a vernacular (German) word rather than a Latinised word. The next author to give this family-group taxon a name was Corda (A.J.), 1847 (*in* Hawle (I.) & Corda (A.J.), *Prodrom einer Monogr.* : 36), who used the spelling TRINUCLEIDES. The first author to use this family-group name in an indisputably Latin form was Salter (J.W.) who in 1864 (*Mon. Brit. Trilobites* (Palaeont. Soc.) : 2) used the name in the form TRINUCLEIDAE. Other things being equal, the correct course would be to attribute to Salter (1864) the family-group name based on *Trinucleus*, but in the present case this would lead to exactly the result which it was the object of the Fourteenth International Congress of Zoology, Copenhagen, 1953, to avoid, when it laid down that a family-group name may be accepted as from a date on which it was published in a vernacular form instead of in a Latin form where this is necessary in the interests of stability in nomenclature (1953, *Copenhagen Decisions zool. Nomencl.* : 35—36, Decision 53(2)). For if the family-group name based upon *Trinucleus* were accepted as ranking only from Salter, 1864, it would fall as a junior subjective synonym of CRYPTOLITHIDAE Angelin, 1854 (*Palaeont. scand.* **1** Crustacea : 64) (type genus : *Cryptolithus* Green, 1832). In these circumstances the family-group name based on *Trinucleus* is properly acceptable as from Emmrich, 1844, the author who, as already explained, is always credited with this name by trilobite workers. The second generic name dealt with in the present application, *Tretaspis* M^{c}Coy, 1849, has been taken as the base for a subfamily name TRETASPINAE by Whittington (H.B.) in 1941 (*J. Paleont.* **15** : 23).

10. For the reasons set forth in the present application it is here asked that the International Commission on Zoological Nomenclature should :—

(1) use its Plenary Powers for the purpose of suppressing the under-mentioned names to the extent severally shown below :—

(a) to be suppressed for the purposes of both the Law of Priority and the Law of Homonymy :—

(i) *Trinucleus* Link, 1807 ;

(ii) *Tretaspis* Murchison, 1839 ;

(b) to be suppressed for the purposes of the Law of Priority but not for those of the Law of Homonymy : *tuberculatus* Link, 1807, as published in the combination *Trinucleus tuberculatus* ;

(2) place the under-mentioned generic names on the *Official List of Generic Names in Zoology* :—

(a) *Trinucleus* Murchison, 1839, as validated under the Plenary Powers under (1)(a)(i) above (gender : masculine) (type species, by selection by Vogdes (1890) : *Trinucleus fimbriatus* Murchison, 1839, as defined by the lectotype selected in paragraph 6 of the present application) ;

(b) *Tretaspis* M^{c}Coy, 1849, as validated under the Plenary Powers under (1)(a)(ii) above (gender : feminine) (type species, by selection by Bassler (R.S.) (1915) : *Asaphus seticornis* Hisinger, 1840) ;

(3) place the under-mentioned specific names on the *Official List of Specific Names in Zoology* :—

(a) *fimbriatus* Murchison, 1839, as published in the combination *Trinucleus fimbriatus* and as defined by the lectotype specified in (2)(a) above (specific name of type species of *Trinucleus* Murchison, 1839) ;

(b) *seticornis* Hisinger, 1840, as published in the combination *Asaphus seticornis* (specific name of type species of *Tretaspis* M^{c}Coy, 1849) ;

(4) place the under-mentioned generic names on the *Official Index of Rejected and Invalid Generic Names in Zoology* :—

(a) the generic names specified respectively in (1)(a)(i) and (1)(a)(ii) above, as there suppressed under the Plenary Powers ;

(b) *Edgellia* Shaw (A.B.), 1950 (a junior objective synonym of *Trinucleus* Murchison, 1839, as validated under the Plenary Powers under (1)(a)(i) above) ;

(5) place the under-mentioned specific name on the *Official Index of Rejected and Invalid Specific Names in Zoology* : *tuberculatus* Link, 1807, as published in the combination *Trinucleus tuberculatus*, as suppressed under the Plenary Powers under (1)(b) above ;

(6) place the under-mentioned family-group names on the *Official List of Family-Group Names in Zoology* :—

(a) TRINUCLEIDAE (correction of TRINUCLEEN) Emmrich (H.[F.]), 1844 (type genus : *Trinucleus* Murchison, 1839) ;

(b) TRETASPINAE Whittington (H.B.), 1941 (type genus : *Tretaspis* M^{c}Coy, 1849) ;

(7) place on the *Official Index of Rejected and Invalid Family-Group Names in Zoology* the under-mentioned family-group names, each of which is an Invalid Original Spelling for TRINUCLEIDAE (type genus: *Trinucleus* Murchison, 1839 :—

(a) TRINUCLEEN Emmrich (H.), 1844 ;

(b) TRINUCLEIDES Corda (A.J.), 1847.

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