
By C. H. C. Brunton (British Museum (Natural History), London)

The name Cleiothyris was first published by Phillips (1841:55) as a taxon within his proposed new classification of brachiopods; it formed the last of five sections within his "Delthyridae". Phillips, however, lacked the courage of his convictions and made "no use of the new terms" in his work. Thus no species was assigned to Cleiothyris by Phillips and it is only by interpretation (see Buckman 1906: 323) of Phillips' work that it would be possible to suggest that Terebratula concentrica von Buch and Spirifera imbricata Sowerby should be considered as included species.

2. It seems that Phillips intended the name to substitute for Atrypa Dalman, for in a footnote he wrote (1841: 55) "The term Atrypa . . . is objectionable. Cleiothyris . . . would be preferable, and with the terms Epithyris and Hypothyris might console us for the loss of Terebratula, which in von Buch's view includes the three groups".

3. In 1844 M'Coy published the generic name Athyris (:146), and wrote that "Professor Phillips is the only author who has recognised the group; he forms of it his last division of the genus Spirifera . . .". From what M'Coy wrote in discussing Phillips' classification (1844: 103) it is clear that by "Spirifera" M'Coy meant Phillips' group the Delthyridae. Thus, in effect M'Coy would seem to have proposed Athyris in the place of Cleiothyris Phillips, and some support for this view might be gained from his inclusion of T. concentrica von Buch amongst his Athyris species.

4. The name Cleiothyris was never linked to any species until 1850 when King diagnosed the genus and clearly designated as type-species Atrypa pectinifera J de C Sowerby, which he described and figured. This is a Permian species from Co. Durham. King believed Phillips to have "proposed the name Cleiothyris as a substitute for Atrypa, Dalman, . . ." (1850: 137-footnote), objected to this use and so utilized Phillips' generic name within his own concept. Cleiothyris King " . . . is synonymous with Actinoconchus, M'Coy (1844), and J de C Sowerby's 'Section 1' of Dalman's Atrypa (Min. Conch. vol. vii, p. 11 and 14); also in part with Athyris M'Coy." (1850: 137-footnote). (A. pectinifera is the first species mentioned by Sowerby in his 'Atrypa, Section 1' on page 14 of his Min. Conch., vol. 7).

5. Davidson, in his British Fossil Brachiopoda, did not accept the name Cleiothyris, nor did European palaeontologists. However, the Americans Hall and Clarke (1894) utilized Cleiothyris King 1850 as a subgenus of Athyris M'Coy 1844.

6. Buckman (1906) discussed the question of Cleiothyris and concluded that it should not be used either in Phillips's sense, as this would complicate the concept of Athyris (a commonly used genus name), or "on King's authority", (1906: 324) and so substituted for it the name Cleiothyridina. It is clear that Buckman erected Cleiothyridina as a substitute name for Cleiothyris both by
his use of 'nom nov' and because he places the latter, of "King et auctt. (non Phillips)" in synonymy. Having done this the type species of Cleiothyridina must, according to the Rules, be that of Cleiothyris King, 1850, i.e. A. pectinifera. During the latter half of the nineteenth century several palaeontologists considered Spirifer deroissyi Léveillé, 1835, conspecific with Atrypa pectinifera J de C Sowerby, 1840. It is likely that Buckman thought this to be true for he gave as type species of Cleiothyridina "Athyris Royssii, Davidson, Mon. Carb. Brach. pl. xviii, fig. 8". Davidson (1858: 22) himself did not consider the two species conspecific, and the figure in Davidson to which Buckman referred, although named "Athyris Royssii L'Eveille" by Davidson (1861), actually illustrated the species Spirifera fimbriata Phillips, 1836.

7. Thus both the genus name Cleiothyridina and the type species with which it is associated are somewhat confused.

8. Since Phillips (1841) mentioned no species unequivocally in connection with Cleiothyris it is impossible to understand his concept at all accurately. In discussing his new genus Athyris M'Coy (1844) never mentioned Cleiothyris, but his own words indicate that he includes within his genus species from the Cleiothyris group of Phillips. However, as Athyris has been utilized widely in the literature since 1844 there is no merit in urging its suppression in favour of Cleiothyris Phillips, 1841.

9. From what Phillips (1841) wrote it is difficult to be absolutely sure of the relationship intended between Atrypa and Cleiothyris. If King (1850) is correct in saying that Phillips intended his name as a substitute for Atrypa then the concept of Cleiothyris King, 1850, differs markedly from Cleiothyris Phillips 1841.

10. Cleiothyris King, 1850, included the species C. planosulcata (Phillips), C. expansa (Phillips), C. deroissyi (Léveillé), described by King as having a "striking resemblance" to the type species, C. pectinifera (J de C Sowerby). King also included C. ambigua (Sowerby). Within his diagnosis and description of Cleiothyris King mentioned 'Minute punctures', presumably within the shell substance, which he saw in C. ambigua. This species is not endopunctate and it seems that King must have misidentified as ambigua some terebratulide. With the exception of this feature, his concept of Cleiothyris was that upon which Buckman (1906) substituted his name Cleiothyridina.

11. Since 1906 the name Cleiothyridina has been used for Carboniferous and Permian brachiopods of world-wide distribution by palaeontologists of many nationalities and the name Cleiothyris has fallen from use. Cleiothyris may, therefore, be considered a nomen oblitum.

12. The recommendations here, that the type species should be designated as Atrypa pectinifera J de C Sowerby, maintains the generally accepted concept of Cleiothyridina better than does the adherence to the type species named by Buckman. The 'Athyris Royssii' designated by Buckman (1906: 324) is an illustration in Davidson (1861, pl. 18, fig. 8). Davidson placed into synonymy with 'A. Royssii' several species, including Spirifera fimbriata Phillips, 1836, which, although unfigured by Phillips, was figured by Davidson (1861, pl. 18, fig. 11) from Phillips' original specimen (which is now in the Oxford University Museum, E1093). Davidson's figures 8–11 of Pl. 18 are conspecific, should be named Cleiothyridina fimbriata (Phillips) and are quite distinct from Spirifer
deroissyi Léveillé, 1835, p. 39, pl. 2, figs. 18–20, which is also probably a Cleiothyridina species. Thus since Davidson’s time the concept of C. deroissyi has differed from that of Léveillé 1835 and what was commonly called deroissyi should be named fimbriata. Because of this confusion the concept of Cleiothyridina is stabilized more easily by invoking the Rules (Article 67) and designating C. pectinifera (J de C Sowerby) as type species. This Permian species is closely similar to the Carboniferous species commonly named C. deroissyi (Léveillé), but which should be identified as C. fimbriata (Phillips).

13. The International Commission is asked:

(1) to use its plenary powers to suppress the generic name Cleithyrhrys Phillips, 1841, for the purposes of the Law of Priority but not for those of the Law of Homonymy;

(2) to place the generic name Cleiothyridina Buckman, 1906 (gender: feminine), type-species, by designation by King, 1850, through Cleithyrhrys Phillips, 1841, Atypa pectinifera J. de C. Sowerby, 1840, on the Official List of Generic Names in Zoology;

(3) to place the following specific names on the Official List of Specific Names in Zoology:

(a) pectinifera J. de C. Sowerby, 1840, as published in the binomen Atypa pectinifera (type-species of Cleiothyridina Buckman, 1906);

(b) fimbriata Phillips, 1836, as published in the binomen Spirifera fimbriata;

(c) deroissyi Léveillé, 1835, as published in the binomen Spirifer De Roissy;

(4) to place the generic name Cleithyrhrys Phillips, 1841 (as suppressed in (1) above on the Official Index of Rejected and Invalid Generic Names in Zoology.

References
M'Coy, F. 1844. Carboniferous Limestone fossils of Ireland. 207 pp. 29 pls.
—— 1841. Palaeozoic Fossils, 231 pp. 60 pls.

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