1836 [reprinted from Nov. Actorum Acad. Caes. Leop.-Carol. Nat. Cur. 17(Suppl.]) and Zamites bergeri (Göpp.) C. Presl (in Sternberg, Vers. Fl. Vorwelt 2: 198. 1838). Therefore, S. bergeri was nomenclaturally superfluous when published adopting the epithet of the illegitimate odontopteris bergeri Göpp., rather than that of the earlier O. cycadea. It is unclear why Göppert (l.c.) provided a new name for Berger’s species, just commenting on the superficial similarity of one of the figured specimens (Berger’s fig 2) to a different fossil species, Odontopteris lindleyanus, and suggesting that the other (fig. 3), although coming near to a “Cycadea” seemed to have different nerve structure. Neither Göppert nor Presl in any way excluded although coming near to a “Cycadea seemed to have different nerve structure. Neither Göppert nor Presl in any way excluded
classification, Odontopteris cycadeus, the distinct cycadalean foliage genus, classification, Odontopteris cycadeus, the distinct cycadalean foliage genus, Odontopteris lindleyanus, and suggesting that the other (fig. 3),
neither of the figured specimens (Berger’s fig 2) to a different fossil species, Odontopteris lindleyanus, and suggesting that the other (fig. 3), although coming near to a “Cycadea” seemed to have different nerve
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Acknowledgements
Special thanks go to Mrs. Valentina Bublik (Fundamental Botanical Library of the National Institute of Carpology, Moscow) for bibliographic searches of dates of publication. I am thankful to Dr. Norbert Hauschke (Curator of Geologisch-Paläontologische Sammlungen, Martin-Luther-Universität Halle-Wittenberg, Halle (Saale)) for verification of Bornemann’s specimen of Scytophyllum bergeri. The research is a contribution to Palaeoflora Europaea Project and Palaeoflora of Russia (Palaeoflora Rossica) Project (NOM-10-1034).

(2097–2098) Proposals to conserve the name Vertebbraria Royle ex McCoy (fossil Gymnospermae, Glossopteridales) against Vertebbraria Roussel (Rhodymiophyta) and Sphenophyllum indicum (V. indica) against V. australis and Clasteria australis

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Typus: V. australis McCoy


The fossil genus Vertebbraria Royle ex McCoy representing roots of Glossopteridales is one of the good markers of a specialized extinct vegetation of Permian Gondwanaland; it has been widely reported in the palaeontological record, although comprising only


However, the nomenclature of Vertebraria Royle ex McCoy is confused and complicated, and should be clarified for users. Royle (Iustr. Bot. Himal. Mts. 2: tab. 2. Jun 1834) published only tables of two fossil remnants, “Vertebraria indica Royle” and “Vertebraria radiata Royle”, from the Upper Permian (Raniganj Formation) of Raniganj Coalfield, Damodar Valley, India. There is mention of these species on page xxix* of Royle’s volume 1, but that appeared only in Mar-Apr 1840 (vide TL-2; Stafleu & Cowan in Regnum Veg. 110. 1975; Schopfiicaulia D.D. Pant, Paratordoxylony D. Mussa., Myelontordoxylony D. Mussa, and Schopficaulia D. Mussa (‘Schopficaulia’)).

Searching extensively through post-1834 literature, both geological and botanical, we could not find any other work in which Vertebraria as a genus has been validly published except for that of McCoy (l.c.) who for the first time provided a distinct generic description, and description of a new species Vertebraria australis (serving as type of the generic name) from stratigraphically similar deposits in Australia [type specimens now in the Sedgwick Museum of Earth Sciences, Cambridge]. Therefore, Vertebraria Royle ex McCoy has been validated on Australian material, not Indian, and the type of the generic name may not be listed as ‘Vertebraria indica Royle’ (Rigby & al. in Geol. Surv. Queensland Publ. 348: 16. 1980; McCloughlin & al. in Antarct. Sci. 17: 71. 2005). The Indian species names were validated, i.e., supplied with descriptions and even additional full and complete reference to Royle materials, by Unger (l.c.), but the distinctness of Indian material at generic level at that time was not accepted: Unger erroneously thought it to represent leaf shoots of the leafy genus Sphenophyllum. Thus, Unger alone should be cited as the author of these fossil species names, because he did not ascribe the names to Royle and, although he cited “Vertebraria radiata F. Royle” and “Vertebraria indica F. Royle” as though synonyms, these were not validly published names and hence there is no basis for treating these as new combinations with parenthetical authorship, but should be cited as: Sphenophyllum indica Unger (l.c.) and Sphenophyllum radiatum Unger (l.c.). However, the illustrations and specimens of Royle preserved now in the Department of Palaeontology, Natural History Museum (London) are integral part of Unger’s protologues, and should be used in typification of both species names, as correctly done by Arber (Cat. Glossopetris Fl.: 99. 1905). The exact date of publication of Unger’s book (l.c.) has been established from the publisher’s advertisement in the Wiener Zeitung, № 93, p. 1205. 18 Apr 1850 (‘neueste Publicationen der … Akademie’), and confirmed in the daily lists of newly published books in Germany and German-speaking countries being received in Leipzig on 17–20 Apr 1850 (Börsenblatt für den Deutschen Buchhandel, 23 Apr 1850 (№ 34, p. 473)).

The rhizomatous nature of these fossils was established only in 1861 by Bunbury (in Quart. J. Geol. Soc. London 17: 338–340. 1861). This treatment was confirmed later by Feistmantel (in J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 45: 347. tab. 15, fig. 3, tab. 16, fig. 4. 18 Apr 1877* ['1876']) who rejected Unger’s treatment as erroneous and reinstated Vertebraria and especially the Indian forms as a separate species, Vertebraria indica (Unger) Feistm., a new combination based on Unger’s validated name in Sphenophyllum. Arber (l.c.) selected the specimen cited above (VS189) as the type of V. indica. Feistmantel (l.c. 1877) established that two species recognised by Royle represent merely a single species of variable preservation. Later, he (in Palaeontogr. Suppl.-Bd. 3: 84–87. 1878) reported the synonymy between Vertebraria and Clasteria australis Dana (l.c. 1849), and these conclusions became widely accepted and never questioned (see, e.g., Arber, l.c.: 98; Rigby & al., l.c.: 17).

[*The exact date of publication of Feistmantel (l.c. 1877) has been established from the “Bengali Library Catalogue of Books for the quarter ending 30 June 1877” (Appendix to the Calcutta Gazette of 25 July 1877); Feistmantel’s paper was received on 1 December and read on 6 December 1876, but published later, on 18 April 1877, not in 1876.]

This synonymization by Feistmantel of Clasteria australis into Vertebraria did not affect the generic nomenclature since Dana’s publication of Clasteria (l.c. 1849) appeared two years after the validation of Vertebraria by McCoy in 1847. [The exact date of publication of Dana’s work (l.c. 1849) has been established from The Literary World, № 146, p. 427. 1849 (‘just issued’); and confirmed by lists of newly published books in the U.S.A.: The Literary World, № 157, p. 109. 1850 (Books published in the United States from 19.01–2.02.1850)]. However the species nomenclature suffers significantly. The Indian species was not validly named, as Sphenophyllum indicum, until 1850, and is a heterotypic synonym of both earlier species names coming from Australian material, Vertebraria australis McCoy (l.c.) and Clasteria australis Dana (l.c. 1849).

(2009) Proposal to conserve the name Bucklandia Brongn. against Bucklandia Sternb. and Conites (fossil Gymnospermae, Cycadeoideopsida)

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The genus Bucklandia, from the time that it first appeared in palaeobotanical literature in the early 19th century, became for more than a century of research an ill-defined repository for Jurassic–Lower Cretaceous trunks with large scars left by fronds with stout rachides, preserved variously as compressions or casts. Harris (Yorksh. Jurrass. Fl. 3: 172. 1969) even stated that “the main thing they have in common is that they are all supposed to belong to Cycads or Bennettitaleans” [my emphasis]. In order to finish such uncertainty, Carruthers (in Trans. Linn. Soc. London 26: 675. 1870) tried to re-assort species into a number of more natural genera, but his treatment was not followed by later researchers, who preferred simply to lump all his genera into one genus, noticing the lack of clear distinctions (Seward, Cat. Mesoz. geology and palaeobotany. This prompts this formal proposal to keep the status quo for the nomenclature of Vertebraria indica despite its deviation from the principle of priority, established for more than 130 years, i.e., to conserve the fossil species name Sphenophyllum indicum Unger (1850), upon which Vertebraria indica (Unger) Feistm. is based, over its heterotypic, earlier synonyms, Vertebraria australis McCoy (1847) and Clasteria australis Dana (1849).

However, Bucklandia as a genus was first created by Sternberg (l.c. 1825) to include Lower Cretaceous (Wealden) stems known as Clathraria anomala. Sternberg (l.c. 1825) based his new genus on this fossil plant species previously published and figured in the Transactions of the Geological Society of London (Ser. 2, 1: 421–424. 17 Dec 1824) among descriptions of the collection of fossil plants from Tilgate, which was presented to the Geological Society of London by G. Mantell. In the publication authorship was not clearly stated, either in the text of the article, contents or index of the volume, or even in a separate reprint, just a statement is available that “some members of the Council were appointed a committee to describe and publish them [i.e., fossil plants] in the Transactions”. According to Art. 46.7, Note 3, the authorship of the taxon has been established externally from the notes of G. Mantell (Illustr. Geol. Sussex: 52. 1827), who implicitly attributed scientific names to Stokes & Webb, and expressed his regrets that his, Mantell’s, species epithet C. iellyii was not taken by these authors from his unpublished collection designations, which forced him to use imaginary “privilege of original discoverers … to retain that specific designation” in his inadmissible re-naming of C. anomala as C. iellyii (Mantell, l.c.); attribution of the authorship to Mantell as done by Jongmans (Foss. Cat. Pl. 16: 354. 1930 & 22: 1237. 1937) is an error. Although initially C. anomala as an abnormal species had been referred by Stokes and Webb to the Carboniferous lepidophytic stem genus Clathraria Brongn. (in Mém. Mus. Hist. Nat. 8: 209, 222. Mai 1822), distantly related in time and phylogenetic systems, its distinctness led to the segregation of the Cretaceous species into a distinct genus by Sternberg although its affinities due to lack of any marks of reproductive organs were still unclear. Recently Watson & Cusack (l.c.: 160; Watson & Sincock, l.c.: 158) after additional studies and observations on leaf-scars structures pointed to its cycadaceous relationships, not lepidophytic or bennettitalean, and hence C. anomala should be better referred to quite another class of gymnosperms, Cycadopsida Brongn., Enum. Pl. Mus. Paris: xxiii, 136. 1843 (‘Cycadeoideae’), rather than Cycadeoideopsida D.H. Scott, Stud. Foss. Pl. ed. 3: 320. 1923 (‘Cycadeoideae’) or

Acknowledgements

Special thanks go to the British Library, Asia, Pacific and Africa Collections, London (Patrick Casey), and National Library of India, Kolkata, for assistance with bibliographical verifications of publication dates of Indian literature and providing some old Indian geological and palaeontological treatises for study. The Curator of Palaeobotany, Department of Palaeontology, Natural History Museum, London (Peta Hayes), and the Collections Assistant, Palaeontology, Sedgwick Museum of Earth Sciences, University of Cambridge (Matt Riley), are to be thanked for original specimens verification. The research is a contribution to the Systema Spermatophytorum Project of the National Institute of Carpology (Gaertnerian Institution), Moscow.