OPINION 1842

Coelurus bauri Cope, 1887 (currently *Coelophysis bauri*; Reptilia, Saurischia): lectotype replaced by a neotype

Keywords. Nomenclature; taxonomy; Reptilia; Saurischia; theropod dinosaurs; *Coelophysis*; *Coelophysis bauri*.

Ruling

(1) Under the plenary powers all previous fixations of type specimens for the nominal species *Coelurus bauri* Cope, 1887 are hereby set aside and the articulated skeleton no. AMNH 7224 in the American Museum of Natural History, New York, is designated as the neotype.

(2) The name *Coelophysis* Cope, 1889 (gender: feminine), type species by subsequent designation by Hay (1930) *Coelurus bauri* Cope, 1887, is hereby placed on the Official List of Generic Names in Zoology.

(3) The name *bauri* Cope, 1887, as published in the binomen *Coelurus bauri* and as defined by the neotype designated in (1) above specific name of the type species of *Coelophysis* Cope, 1889, is hereby placed on the Official List of Specific Names in Zoology.

(4) The name *Rioarribasaurus* Hunt & Lucas, 1991 is hereby placed on the Official Index of Rejected and Invalid Generic Names in Zoology (a junior objective synonym of *Coelophysis* Cope, 1889).

(5) The name *colberti* Hunt & Lucas, 1991, as published in the binomen *Rioarribasaurus colberti*, is hereby placed on the Official Index of Rejected and Invalid Specific Names in Zoology (a junior objective synonym of *Coelurus bauri* Cope, 1887).

History of Case 2840

An application to replace the lectotype of *Coelurus bauri* Cope, 1887 with a neotype was received from Dr Edwin H. Colbert (*Museum of Northern Arizona, Flagstaff, Arizona, U.S.A.*), Dr Alan J. Charig (*The Natural History Museum, London, U.K.*), Prof Peter Dodson (*School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pennsylvania, U.S.A.*), Dr David D. Gillette (*Division of State History – Antiquities, Salt Lake City, Utah, U.S.A.*), Dr John H. Ostrom (*Peabody Museum, Yale University, New Haven, Connecticut, U.S.A.*) and Dr David Weishampel (*School of Medicine, Johns Hopkins University, Baltimore, Maryland, U.S.A.*) on 9 January 1992. After correspondence the case was published in BZN **49**: 276–279 (December 1992). Notice of the case was sent to appropriate journals.

The name '*Coelurus*' in the last sentence of para. 10 of the application should read *Coelophysis* (see BZN **50**: 147, June 1993).

Comments in support were received from Dr Hans-Dieter Sues (*Royal Ontario Museum, Toronto, Ontario, Canada*), published in BZN **50**: 151 (June 1993); Dr Hilde L. Schwartz (*Los Alamos National Laboratory, Los Alamos, New Mexico, U.S.A.*), Dr R.E. Molnar (*Queensland Museum, South Brisbane, Queensland, Australia*),

Prof Zdeněk V. Špinar (*Prysk, Czech Republic*), Dr Thomas R. Holtz, Jr. (*Geological Survey, U.S. Department of the Interior, National Center, Reston, Virginia, U.S.A.*), and Prof Farish A. Jenkins, Jr. (*Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, U.S.A.*), all published in BZN **50**: 236–239 (September 1993); Dr Benjamin S. Creisler (*Seattle, Washington, U.S.A.*), Dr Nicholas Hotton III (*National Museum of Natural History, Smithsonian Institution, Washington, D.C., U.S.A.*), both published in BZN **50**: 292–294 (December 1993), together with a note of support from Dr Dale A. Russell (*Canadian Museum of Nature, Ottawa, Ontario, Canada*); Dr Elizabeth L. Nicholls (*Royal Tyrrell Museum of Palaeontology, Drumheller, Alberta, Canada*), Prof Louis L. Jacobs (*Southern Methodist University, Dallas, Texas, U.S.A.*), Dr Donald F. Glut (*Burbank, California, U.S.A.*) and Prof Armand de Ricqlès (*Université de Paris VII, Paris, France*), all published in BZN **51**: 50–51 (March 1994).

Opposing comments were received from Drs Adrian P. Hunt (*University of Colorado at Denver, Denver, Colorado, U.S.A.*) & Spencer G. Lucas (*New Mexico Museum of Natural History and Science, Albuquerque, New Mexico, U.S.A.*) and Dr Robert M. Sullivan (*The State Museum of Pennsylvania, Harrisburg, Pennsylvania, U.S.A.*), both published in BZN **50**: 147–151 (June 1993); Dr S.P. Welles (*Museum of Paleontology, University of California, Berkeley, California, U.S.A.*) and Dr George Olshevsky (*San Diego, California, U.S.A.*), both published in BZN **51**: 48–50 (March 1994); Dr Philip Huber (*Ohio University, Athens, Ohio, U.S.A.*), published in BZN **51**: 156–158 (June 1994). A reply to the comments by Drs Hunt & Lucas and Sullivan was published by Dr J. Lynett Gillette (*Ghost Ranch Conference Center, Abiquiu, New Mexico, U.S.A.*) and two authors of the application, D.D. Gillette & E.H. Colbert, in BZN **50**: 291–292 (December 1993). Further comments from Drs Lucas & Hunt and Sullivan were published in BZN **51**: 265–266 (September 1994) and **52**: 76–77 (March 1995) respectively.

It was noted on the voting paper that Cope's (1887) original *Coelophysis bauri* material, collected from Upper Triassic deposits in northern New Mexico, is fragmentary and its relationship to the better-preserved Ghost Ranch specimens is debated. Nevertheless, the names *Coelophysis* and *C. bauri* have been used since 1947 to denote the Ghost Ranch skeletons and the application by Colbert et al. sought to secure this meaning in the interest of stability. The application was put forward on the basis that the generic name *Coelophysis* appears in many works as the archetypal theropod dinosaur, and that designation of a Ghost Ranch skeleton as the neotype would define the name *Coelophysis bauri* in this sense. The Commission Secretariat has a list of 10 textbooks (by 16 authors or editors) which have used the name *Coelophysis* for the Ghost Ranch skeletons.

The case was referred to the Commission for action under the plenary powers since a neotype designation could not meet the requirements of Article 75 of the Code. The Commission was not asked to take a view on the taxonomic identity of specimens, or the stratigraphic provenance or homogeneity of the original type material of *Coelophysis bauri* and the proposed neotype, but was asked to act only in the overall interest of stability. The specimen proposed as the neotype was the holotype of the nominal taxon *Rioarribasaurus colberti* Hunt & Lucas, 1991 and approval would render the names *Rioarribasaurus* and *colberti* junior objective synonyms of *Coelophysis* Cope, 1889 and *Coelurus bauri* Cope, 1887.

Decision of the Commission

On 1 December 1995 the members of the Commission were invited to vote on the proposals published in BZN **49**: 278. At the close of the voting period on 1 March 1996 the votes were as follows:

Affirmative votes — 18: Bayer, Bock, Bouchet, Cocks, Corliss, Hahn, Halvorsen, Heppell, Holthuis, Kabata, Kraus, Macpherson, Mahnert, Nielsen, Nye, Ride, Starobogatov, Trjapitzin

Negative votes — 8: Cogger, Dupuis, Lehtinen, Martins de Souza, Minelli, Savage, Schuster and Štys.

Hahn commented: 'The problem in this case is a common one in palaeontology: the type material is insufficient to be useful in identifying the taxon concerned. Of the nominal genera involved, *Coelophysis* is the most important in phylogenetic discussions and the name is well used in the literature. Therefore, to conserve 'common usage' it is necessary to approve the proposals of Colbert et al.'. Heppell commented: 'It is clear that the lectotype of *Coelurus bauri* is manifestly not able to fulfil the essential function of a type specimen. In the event of any dispute as to the correct assignment of a scientific name to a taxon 'the name-bearing type provides the objective standard of reference by which the application of the name it bears is determined' (Article 61a of the Code). If the type specimen is inadequate to support this function the name it bears is inevitably a nomen dubium. If, as here, varying interpretations of its identity are current, the pragmatic solution is to set aside its type status in favour of a neotype. No suitable neotype other than the holotype of *Rioarribasaurus colberti* has been suggested in the present case and I therefore vote in support of the application, believing that it is better to clear the ground of dubious or ambiguous impedimenta and leave the way open for future taxonomic and stratigraphic assessment of this important theropod material'.

Original references

The following are the original references to the names placed on Official Lists and Official Indexes by the ruling given in the present Opinion:

bauri, *Coelurus*, Cope, 1887, *American Naturalist*, **21**: 368.

Coelophysis Cope, 1889, *American Naturalist*, **23**: 626.

colberti, *Rioarribasaurus*, Hunt & Lucas, 1991, *Palaeontologische Zeitschrift*, **65**: 191.

Rioarribasaurus Hunt & Lucas, 1991, *Palaeontologische Zeitschrift*, **65**: 191.

The following is the reference for the designation of *Coelurus bauri* Cope, 1887 as the type species of the nominal genus *Coelophysis* Cope, 1889:

Hay, O.P. 1930. *Second bibliography and catalogue of the fossil Vertebrata of North America*, vol. 2, p. 186.