Revised diagnoses of Hadrosaurus foulkii Leidy, 1858 (the type genus and species of Hadrosauridae Cope, 1869) and Claosaurus agilis Marsh, 1872 (Dinosauria: Ornithopoda) from the Late Cretaceous of North America

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Hadrosauridae constitutes a very diverse clade of herbivorous dinosaurs that were extremely abundant during the Campanian–Maastrichtian (Late Cretaceous) of Europe, Asia, both Americas, and probably also Antarctica (Horner et al. 2004). The fact that hadrosaurids are one of the best-known clades of dinosaurs, represented by arguably the richest dinosaurian fossil record, contrasts with the scarcity of material and apparently undiagnostic nature of their type genus and species, Hadrosaurus foulkii. The holotype and only known specimen of H. foulkii is also historically significant for being the first skeletal remains of a dinosaur described outside Europe (Leidy 1858).

Recently, Prieto-Márquez et al. (2006) redescribed in detail the osteology of H. foulkii and revised the taxonomy of the genus Hadrosaurus. These authors concluded that H. foulkii is a nomen dubium because they found no autapomorphic or distinguishable characters in the type and only known materials of this taxon.

Here, I show that Hadrosaurus foulkii is actually diagnosable based on a combination of plesiomorphic and derived appendicular characters. An ancilliary outcome of this study is the recognition of a diagnostic combination of iliac characters (in the context of the phylogenetic framework of Prieto-Márquez 2010) in Claosaurus agilis, a poorly known hadrosauroid outgroup to Hadrosauridae (Fig. 1) from the middle of the North American continent.

Institutional abbreviations

AMNH American Museum of Natural History, New York, USA
ANSP Academy of Natural Sciences of Philadelphia, Philadelphia, USA
FMNH The Field Museum, Chicago, USA
IRSNB Institut Royal des Sciences Naturelles de Belgique, Brussels, Belgium
IVPP Institute of Vertebrate Paleontology and Paleoanthropology, Beijing, China
MOR Museum of the Rockies, Bozeman, USA
MPC Mongolian Paleontological Center, Academy of Sciences, Ulan Bataar, Mongolia
NHMUK Natural History Museum, London, UK
PMU Museum of Evolution, Uppsala University, Uppsala, Sweden
ROM Royal Ontario Museum, Toronto, Canada
SM Senckenberg Museum, Frankfurt, Germany
YPM Yale Peabody Museum of Paleontology, Connecticut, USA
ZPAL Institute of Paleobiology, Polish Academy of Sciences, Warsaw, Poland

Systematic Paleontology

Dinosauria Owen, 1842

Ornithischia Seeley, 1887

Ornithopoda Marsh, 1881