

The Barremian heteromorph ammonite *Dissimilites* from northern Italy: Taxonomy and implications

Alexander Lukeneder and Susanne Lukeneder

Acta Palaeontologica Polonica 59 (3), 2014: 663-680 doi: <http://dx.doi.org/10.4202/app.2012.0014>

A new acrioceratid ammonite, *Dissimilites intermedius* sp. nov., from the Barremian (Lower Cretaceous) of the Puez area (Dolomites, northern Italy) is described. *Dissimilites intermedius* sp. nov. is an intermediate form between *D. dissimilis* and *D. trinodosum*. The new species combines the ribbing style of *D. dissimilis* (bifurcating with intercalating single ribs) with the tuberculation style of *D. trinodosum* (trituberculation on entire shell). The shallow-helical spire, entirely comprising single ribs intercalated by trituberculated main ribs, is similar to the one of the assumed ancestor *Acrioceras*, whereas the increasing curvature of the younger forms resembles similar patterns observed in the descendant *Toxoceratoides*. These characters support the hypothesis of a direct evolutionary lineage from *Acrioceras* via *Dissimilites* to *Toxoceratoides*. *D. intermedius* sp. nov. ranges from the upper Lower Barremian (*Moutoniceras moutonianum* Zone) to the lower Upper Barremian (*Toxancyloceras vandenheckii* Zone). The new species allows to better understand the evolution of the genus *Dissimilites*. The genus appears within the *Nicklesia pulchella* Zone represented by *D. duboise*, which most likely evolved into *D. dissimilis*. In the *Kotetishvilia compressissima* Zone, two morphological forms developed: smaller forms very similar to *Acrioceras* and forms with very long shaft and juvenile spire like in *D. intermedius* sp. nov. The latter most likely gave rise to *D. subalternatus* and *D. trinodosum* in the *M. moutonianum* Zone, forms which were probably ancestral to the genus *Toxoceratoides*.

Key words: Ammonoidea, Acrioceratidae, *Dissimilites*, Barremian, Cretaceous, Alps, Italy.

Alexander Lukeneder [alexander.lukeneder@nhm-wien.ac.at], Geological-Palaeontological Department, Natural History Museum, Burgring 7, 1010 Vienna, Austria; Susanne Lukeneder [susanne.lukeneder@nhm-wien.ac.at], Geological-Palaeontological Department, Natural History Museum, Burgring 7, 1010 Vienna and Department of Palaeontology, University of Vienna, Althanstrasse 14, 1090 Vienna, Austria.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see creativecommons.org), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

 [Full text \(842.8 kB\)](#)