

STRATIGRAPHIC SIGNIFICANCE OF THE AMMONOID FAMILY ARCESTIDAE AROUND THE NORIAN/RHAETIAN BOUNDARY

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Based on new stratigraphically detailed sampling (from Austria and Timor) and analyses of classical Hallstatt collections a refined and more detailed NRB stratigraphy of ammonoids of the family Arcestidae is presented. This fossil group is of particular importance as it occurs in high abundance in pelagic LPL faunas and is also represented in relatively shallow water deposits such as crinoidal and reefal limestones allowing there a more accurate stratigraphic datation. Within the NRB internal three arcestid genera occur: *Arcestes*, *Stenarcestes* and *Rhaetites* – the latter is a rapid evolutionary offshoot of *Arcestes* appearing slightly below the NRB. The three genera can be distinguished on the basis of certain shell characters (umbilical width, constriction lining, form of adult body chamber and aperture) which will be discussed.

| Genus | | | | <i>Arcestes</i> | | <i>Stenarcestes</i> | | <i>Rhaetites</i> | | |
|----------|----------|---|------------------------|--|--------------------------|-----------------------|---------------------------|-------------------------|--|--|
| Stage | substage | zone | | | | | | | | |
| | | | <i>A. inustabiatus</i> | <i>A. "muehltaletensis"</i> <i>n. sp.</i> | <i>S. subumbilicatus</i> | <i>S. peribothrus</i> | <i>R. gigantogaleatus</i> | <i>R. acutagaleatus</i> | <i>R. "undulosus"</i> <i>n. sp.</i> | |
| RHAETIAN | | <i>Paracochloceras</i> <i>suessi</i> | █ | | █ | | █ | | █ | |
| | | | █ | | █ | | █ | | █ | |
| NORIAN | | <i>Sagenites quinquepunctatus</i> | █ | | █ | | █ | | █ | |
| | | | █ | | █ | | █ | | █ | |

Fig. 1:
Tethyan ranges of selected Arcestids around the Norian-Rhaetian boundary.

Arcestes s. str. shows no significant changes around the NRB but is represented in the lower Rhaetian by a new form with a trumpet-shaped aperture that will be described as *A. muehltalensis* n. sp. after its type locality. The genus *Stenarcestes* develops two new forms around the NRB, *S. subumbilicatus* and *S. peribrotheus*, both with very distinct and easily identifiable adult body form. Of specific interest is the development of giant arcestids (till 30 cm in diameter) with a unique, externally sharpened body chamber of the “*A. galeati*” group of MOJOSISOVIC. This group recalls the genus *Rhaetites* and consists of three species that appear closely below (*R. gigantogaleatus*, *R. acutogaleatus*) and above the NRB (*Rhaetites “undelosus”* n. sp.).