

**AULACOSTEPHANIDS SPECIES (*AULACOSTEPHANUS*, *RINGSTEDIA*,
SIMOCOSMOCERAS AND *GRAVESIA* GENERA) FROM “ACANTHICUM BEDS”
OF GHILCOȘ (THE EASTERN CARPATHIANS – ROMANIA)**

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Abstract. In this paper there are described some species of the *Aulacostephanus* TORNQUIST, *Ringstedia* SALFELD, and *Gravesia* SALFELD genera, recently discovered in the Ghilcoș Mountain area (Hășmaș Masiff-Eastern Carpathians) in Upper Jurassic deposits (“acanthicum beds”) and there are also revised the specimens of former authors (NEUMAYR, 1873, HERBICH, 1878 and PREDA, 1973), pertaining to this family group (mentioned before and from *Simocosmoceras* SPATH genus).

Keywords: *Aulacostephanidae*, *Palaeontology*, *Hășmaș*, *Ghilcoș*, *Kimmeridgian*.

Rezumat. Specii de *Aulacostefanide* (genurile *Aulacostephanus*, *Ringstedia*, *Simocosmoceras* și *Gravesia*) din „Stratele cu Acanthicum” de la Ghilcoș (Carpații Orientali-România). În lucrare sunt descrise câteva specii din genurile *Aulacostephanus* TORNQUIST, *Ringstedia* SALFELD și *Gravesia* SALFELD, recent descoperite în regiunea muntelui Ghilcoș (Masivul Hășmaș-Carpații Orientali) în depozite jurasic superioare („Stratele cu Acanthicum”) și sunt revizuite exemplarele autorilor anteriori (NEUMAYR, 1873, HERBICH, 1878 și PREDA, 1973), aparținând unor specii atribuite acestei familii (din genurile deja menționate la care se adaugă genul *Simocosmoceras* SPATH).

Cuvinte cheie: *Aulacostephanidae*, *Palaeontologie*, *Hășmaș*, *Ghilcoș*, *Kimmeridgian*.

INTRODUCTION

The Ghilcoș Acanthicum Beds used to be known only four aulacostephanids taxa (with few specimens), pertaining only to *Sutneria* and *Simocosmoceras* genera. This study firstly reveals the presence in this area of the Eastern Carpathians of some other same family species' but pertaining to *Ringstedia* and *Gravesia* genera. The presence here of aulacostephanid representatives is very important from a palaeobiogeographical point of view, regarding the placement of this ammonite fauna between the Mediterranean palaeoprovince and Submediterranean ones.

The outcrops are placed on the western slope and walls of Ghilcoș Massif, a large area with blocks, almost systematically studied in the last 20 years, which yielded one of the richest Kimmeridgian ammonite fauna (GRIGORE, 2000, 2002).

SYSTEMATICS

Abbreviations for the measurements:

Dmax = maximal diameter

Dph = phragmocone diameter

D = measured diameter

U = diameter of umbilicus

H = height

W = width

N_i = number of inner ribs (over one whorl)

N_e = number of external ribs (over the same one whorl as N_i)

Order Ammonoidea ZITTEL, 1884

Family Aulacostephanidae SPATH, 1924

Genus *Aulacostephanus* TORNQUIST, 1896 emended ARKELL, 1935

Aulacostephanus cf. *eudoxus* (D'ORBIGNY, 1847)

Pl. I, Fig. 1.

1847 *Ammonites eudoxus*-D'ORBIGNY; p. 252; pl. 213, Figs. 3-6.

non 1973 *Aulacostephanus* aff. *pseudomutabilis* (LORIOLE)-PREDA; pl. 10, fig. 6.

Material: LRk1H12.

Remarks: our specimen represents a 1/6 whorl of a medium sized *Aulacostephanus*, which preserves the specific ornamentation.

The Preda's specimen (preserved in the University of Bucharest), described as *A. eudoxus* (1973) is possible to belong to an oppelid individual, for the straight umbilicus and thin ribs, without periumbilicale bullae.

Occurrence: Late Kimmeridgian-Eudoxus Zone in the Acanthicum Beds from Ghilcoș-Hășmaș Mts., Romania; Late Kimmeridgian-Eudoxus Zone in England, France, Germany, Poland, Switzerland.

Genus *Ringstedia* SALFELD, 1913

It is firstly mentioned in this region (in the acanthicum beds from Ghilcoş); the species of Neumayr: *Perisphinctes haliarchus* was revised here as belonging to this genus too.

Ringstedia (“*Decipia*”) *helvetica* GEYER, 1961

Pl. I, Fig. 2.

1961 *Ringstedia* (*Decipia*) *Helvetica*-GEYER; p. 129; pl. 21, Fig. 5.

Material: LRk2W4.0.

Measurements:

Specimen	Dmax	Dph	D	U	H	W	U/D	H/D	W/D	H/W	*Ni	*Ne	N _e /N _i
Holotype	215	180	200	86	64	51	0.43	0.32	0.25	1.25	47	174	3.7
LRk2W4.0	180	180	140	60	47	41	0.43	0.33	0.29	1.15	~44	~120	2.72

Remarks: our specimen is a large sized one, representing a phragmocone ventrally deformed, which preserves a small part of the living chamber. The whorl-section is ogivale and its specific ornamentation is well preserved; the morphology and morphometry are comparable with that of type species one.

Occurrence: Early Kimmeridgian-in the top of Strombecki/Hypselocyclum Zone in the Acanthicum Beds from Ghilcoş-Hăşmaş Mts., Romania; Early Kimmeridgian-Platynota and Hypselocyclum zones in Switzerland (Melikon).

Ringstedia (“*Decipia*”) *haliarchus* (NEUMAYR, 1873)

Pl. I, Fig. 3.

1873 *Perisphinctes haliarchus*-NEUMAYR; p. 177; pl. 35, fig. 1, *non* Fig. 2.

1878 *Perisphinctes haliarchus*-HERBICH; p. 157.

Material: LRk3A1; Neumayr’s Holotype: Collection of the Geological Institute of Austria (Bundesanstalt)-Wien; it originates from red nodular limestone from Ciofronca outcrop; Herbich’s specimen: Collection of “Babeş Bolyai” University from Cluj Napoca; it originates from the Ghilcoş outcrop.

Measurements:

Specimen	Dmax	Dph	D	U	H	W	U/D	H/D	W/D	H/W	*Ni	*Ne	N _e /N _i
Holotype	198	198	198	97	51	46	0.49	0.26	0.23	1.11	38	-	-
Herbich sp.	106	106	106	53	30	25	0.50	0.28	0.24	1.20	-	-	-
LRk3A1	-	-	-	-	43	41	-	-	-	1.05	-	-	-

Remarks: our specimen represents a phragmocone sector of a large sized individual, with H>43, which preserves the specific ornamentation very well, comparable with the type specimen; also, the other parameters, both morphological and morphometrical are comparable with those of the type specimen (also).

The Herbich’s specimen represents a medium sized phragmocone, which is different from the type specimen for an “earliest” smooth band on its venter (from 90 mm diameter not by 150 mm as in type specimen).

Occurrence: Early Kimmeridgian-Divisum Zone in Acanthicum Formation (“A” profile from Ghilcoş and “Ciofronca”)-Hăşmaş Mts., Romania; not reported anywhere else in the world.

Genus *Simocoscoceras* SPATH, 1925

Simocoscoceras nitidulum (NEUMAYR, 1873)

1873 *Coscoceras nitidulum*-NEUMAYR; p. 167; pl. 33, Fig. 6.

1973 *Simocoscoceras nitidulum* (NEUMAYR)-PREDA; pl. 17, Fig. 8.

Material: Neumayr’s specimen: Collection of the Geological Institute of Austria (Bundesanstalt)-Wien; it originates from green nodular limestones from Ghilcoş outcrop; Preda’s specimen: Collection of Piatra Neamţ Natural Science Museum; originating from red nodular limestones from Ghilcoş outcrop.

Remarks: with this opportunity we have the possibility to analyze Preda’s specimen, poorly preserved; some peculiar features as the hexagonal whorl section and a smooth lateral tuberculation remind to us this species.

Occurrence: Kimmeridgian (?) from Acanthicum Beds-Hăşmaş Mts. Romania; this species is reported only in this region all over the world and for that reason it worth to be mentioned here.

Genus *Gravesia* SALFELD, 1913

Gravesia cf. *gravesiana* (D’ORBIGNY, 1847)

Pl. I, Fig. 4.

1847 *Ammonites Gravesianus*-D’ORBIGNY; p. 271; pl. 219, Fig. 1.

1966 *Gravesia gravesiana* (D'ORBIGNY)-ENAY; p. 7.

Material: LRk4dp.

Remarks: the specimen represents half of a whorl of a medium sized individual, with a very depressed whorl section and preserving the specific features of the ornamental style.

Occurrence: Late Kimmeridgian (?) in the Acanthicum Beds, (from the slope debris of Ghilcoș), Hășmaș Mts., Romania; Early Tithonian-Gravesiana Zone (/Hybonotum) in the franco-suab "biome" (France, Germany).

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PLATE I

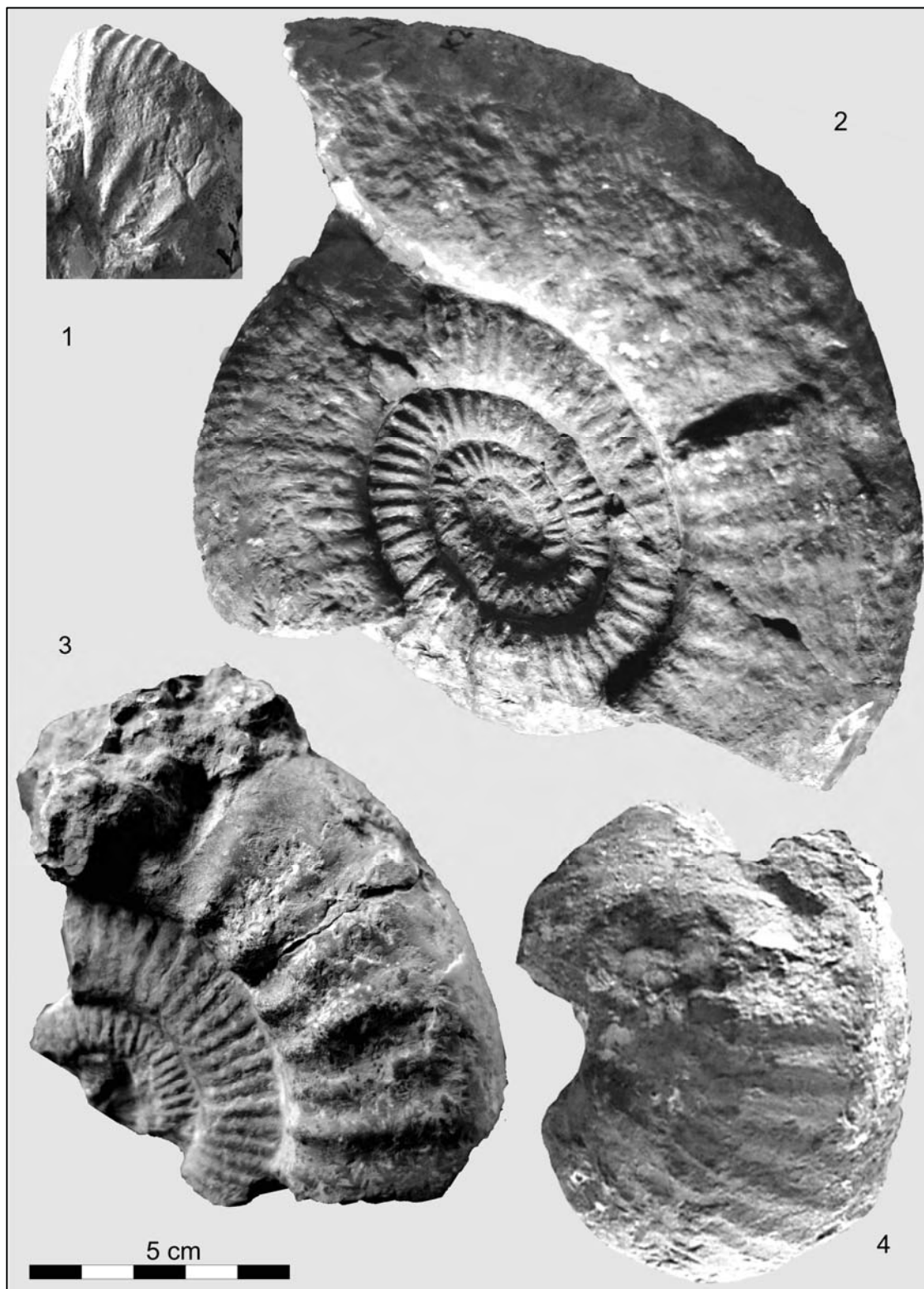


Figure 1. *Aulacostephanus* cf. *eudoxus* (LRk1H12); gray limestones, Late Kimmeridgian-Eudoxus Zone. (x 1) / Figura 1. *Aulacostephanus* cf. *eudoxus* (LRk1H12); calcare cenușii, Kimmeridgian superior-Zona Eudoxus. (x 1)

Figure 2. *Ringstedia* (*Decipia*) *helvetica* (LRx2W4.0), phragmocone; red or green nodular limestone, Early Kimmeridgian, Hypselocyclus (Strombecki) Zone. (x 1) / Figura 2. *Ringstedia* (*Decipia*) *helvetica* (LRx2W4.0), fragmocon; calcare nodulare roșu/verde, Kimmeridgian inferior-Zona Hypselocyclus (Strombecki). (x 1)

Figure 3. *Ringstedia* (*Decipia*) *haliarchus* (LRx3A1), phragmocone; nodular limestones /green sandstones Late Kimmeridgian-Acanthicum Zone. (x 1) / Figura 3. *Ringstedia* (*Decipia*) *haliarchus* (LRx3A1), fragmocon; calcare nodulare /gresii verzui Kimmeridgian superior-Zona Acanthicum. (x 1)

Figure 4. *Gravesia* cf. *gravesiana* (LRk3dp), ventral view; Kimmeridgian, yellow calcarenite, slope debris. (x 1) / Figura 4. *Gravesia* cf. *gravesiana* (LRk3dp), vedere ventrală; Kimmeridgian calcarenite gălbui, depozite de pantă. (x 1)