OPPELID AND HAPLOCERATID AMMONITES FROM THE UPPER JURASSIC DEPOSITS OF HĂGHIMAŞ MTS. (THE EASTERN CARPATHIANS – ROMANIA)

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Abstract. This paper deals with the taxonomic study of the oppeliidas (Streblitinae) and haploceratidas from the Kimmeridgian-Tithonian deposits from Ghilcoş and Ciofronca (Hăghimaş Mts). Fore species of Streblitinae are now described in addition to those known to date from these localities and haploceratidas previously described by PREDA (1973) are reviewed. For the first time species belonging to *Semiformiceras* Spath, 1925 are described from the studied region.

Keywords: Oppeliidae**,** Haploceratidae, paleontology, Hăghimaş, Carpathians, Romania.

Rezumat. Oppelide şi haploceratide din depozitele jurasic superioare din Munţii Hăghimaş (Carpaţii Orientali – România). În lucrare este prezentat studiul taxonomic al speciilor din Familia Oppeliidae – Subfamilia Streblitinae şi Familia Haploceratidae găsite în depozitele kimmeridgian-tithoniene din Ghilcoş şi Ciofronca (Munţii Hăghimaş). Sunt descrise acum alte patru specii de Streblitinae pe lângă cele cunoscute până în prezent din aceste aflorimente şi, revizuite haploceratidele prezentate anterior de PREDA (1973). Pentru prima dată sunt descrise din regiune specii de *Semiformiceras* Spath, 1925.

Cuvinte cheie: Oppeliidae**,** Haploceratidae, paleontologie, Hăghimaş, Carpaţi, România.

INTRODUCTION

The described ammonite fauna comes from the "Acanthicum Beds" of Lacu Roşu (Ghilcoş/Ucigaşu and Ciofronca) area, Haghimaş Massif - Eastern Carpathians (Fig. 1). Outcrops and Upper Jurassic litho- and bio-stratigraphy of this region have been previously described (GRIGORE et al., 2009 and GRIGORE, 2011) in detail.

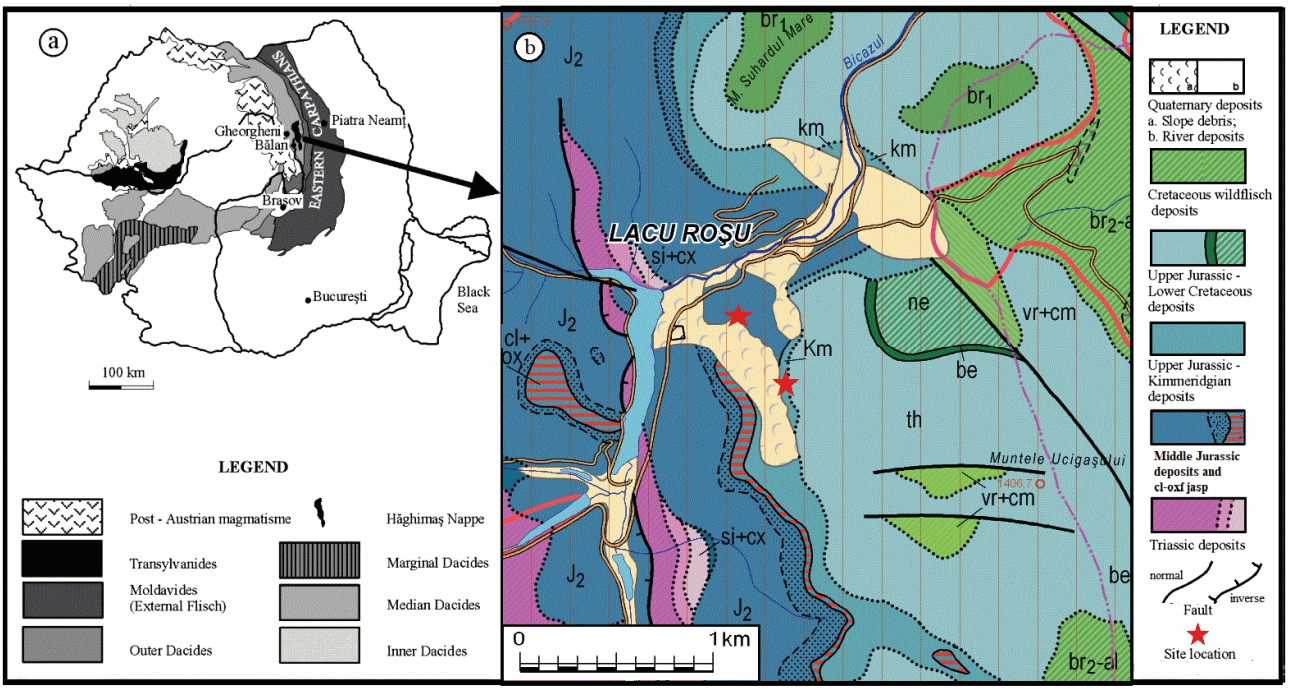

Figure 1. Localization of sites: a) in Romania - geotectonic sketch (after SĂNDULESCU, 1984); b) on the geological map scale 1: 50,000 (after SĂNDULESCU al. 1975, revised GHEUCA & GRIGORE, 2010).

The species described here belong to the families Oppeliidae Douvillé (Subfamily Streblitinae Spath) and Haploceratidae Zittel. The Oppeliidae family is well represented in the region by number of species and specimens, on the entire interval Kimmeridgian - Early Tithonian; the representatives of Taramelliceratinae are the most abundant, while those of Streblitinae were less known until now. From the previous papers of NEUMAYR (1873), HERBICH (1878) and PREDA (1973) the species *Streblites tenuilobatus* (Oppel, 1863) and *Creniceras dentatum* (Reinecke, 1818) only were reported from the Kimmeridgian of this area, while Tithonian streblitid occurrences remain unknown yet (Fig. 2).

Discussions over the last 20 years on the sexual dimorphism of ammonites have led to the attempt to join under the same species name dimorphs previously ascribed to as different genera or even subfamilies. For example, among the

Kimmeridgian oppeliids the following taxa were synonimized in such a manner: *Taramelliceras compsum* (Oppel) with *Glochiceras crenosum* (Quenstedt) and *Streblites weinlandi* (Oppel) with *Creniceras dentatum* (Reinecke) (BAUDOUIN & AL, 2011).

As Wierzbowski shows (WIERZBOWSKI et al., 2010), in some cases, this review is premature, with no detailed ontogenetic and extensive biostratigraphic analysis; synonimization of morphospecies in some unreal biological species can also cause biostratigraphic problems. For this reason I used the old classification in some cases, but with the mention in the chapter of synonymy the modification brought by newer authors.

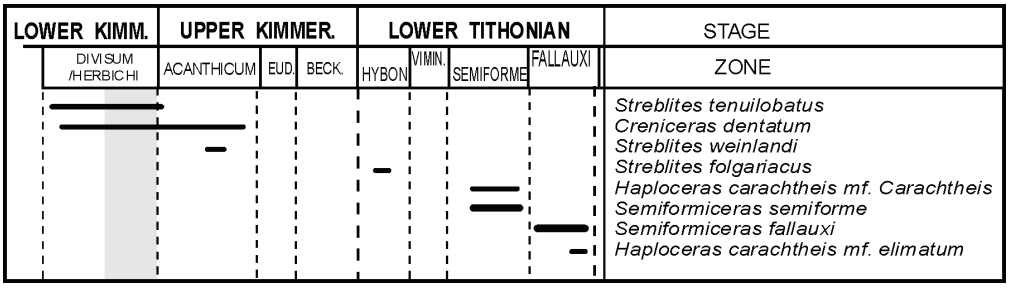

Figure 2. Stratigraphic distribution of studied taxa through these sections.

MATERIAL AND METHOD

The analysed material belongs to the author's collection, deposited in the National Geological Museum (MNG - GIR, Geological Institute of Romania) - Bucharest. Also, the opelids and haploceratides specimens from the collections of the University of Bucharest and the Museum of Natural Sciences in Piatra Neamț belonging to Professor Ion PREDA were analyzed. All specimens described by previous authors (NEUMAYR, 1873, HERBICH, 1878, PREDA, 1973) are reviewed here to complete the picture of the association existing in this region.

The determination of the species used the method of comparison with the specimens known in the literature, mentioned in synonymy. The specific determination was made especially related to the holotype (or other type specimens), comparing the morphometric parameters and the morphology.

SYSTEMATICS

Abbreviations for the measurements, collections and outcrops:

Dmax = maximal diameter
Dph = phragmocone diameter
D = measured diameter
U = diameter of umbilicus
H = whorl height
W = whorl width

GIR = Geological Institute of Romania
GBA = Geological Institute of Austria (Bundesanstalt)
UBB = "Babeș Bolyai" University from Cluj Napoca
LGB = Geology Laboratory of Bucharest University
MPN = Museum of Natural Sciences - Piatra Neamț

F1 = Outcrop from western Ghilcoș walls
F2 = Outcrop from north-western Ghilcoș slope
F17 = Outcrop from "Ciofronca"; all in GRIGORE et al., 2009
A, D… K = studied sections (GRIGORE, 2002, 2011)

Family Oppeliidae Douvillé 1890
Subfamily Streblitinae Spath 1925
Genus *Streblites* Hyatt 1900
Streblites tenuilobatus (Oppel 1857)
Pl. 1, Figs. 8, 11, 12

1857 *Ammonites tenuilobatus* - OPPEL; p. 388.
1863 *Ammonites tenuilobatus* Oppel - OPPEL; p. 160; Pl. 50, Fig. 1.
1876 *Oppelia tenuilobata* Oppel - LORIOL; p. 29; Pl. 2, Fig. 5.
1877 *Ammonites* (*Oppelia*) *tenuilobatus* Oppel - FAVRE; p. 26, Pl. 2, Fig. 5.
1879 *Oppelia tenuilobata* Oppel - FONTANNES; p. 22; Pl. 3, Fig. 5.
1888 *Ammonites pictus* - QUENSTEDT; Pl. 119, Figs. 12, 13, 15, 17.
1929 *Streblites tenuilobatus* Oppel - WEGELE; p. 11; Pl. 1, Figs. 8, 9.
1973 *Oppelia* (*Streblites*) *tenuilobatus* Oppel - PREDA; Pl. 10, Fig. 5.
1973 *Oppelia* sp. - PREDA; Pl. 7, Fig. 3.
1978 *Streblites tenuilobatus* (Oppel) - OLORIZ; p. 44; Pl. 4, Figs. 2, 3.
1979 *Streblites tenuilobatus* (Oppel) - SAPUNOV; p. 62; Pl. 14, Figs. 1 a, b.

Material: LRp212A8, LRp210A2, LRp76K6, LRp213A3, LR81A, LRp80A2; *S.* cf. *tenuilobatus*: LRp356T Grigore Collection in GIR. Neumayr's specimen (1973): Collection of GBA – collected by Herbich from red nodular limestones – Ghilcoș outcrop (F1). Herbich's specimen (1878): Collection of UBB; originates from red nodular limestones – Ciofronca outcrop (F17). Preda's specimens (1973): Collection of MPN inv. 5MPN (Pl. 10, Fig. 5); originates from grey nodular limestones – Ghilcoș outcrop (F2); *Oppelia* sp. (Pl. 7, Fig. 3) originates from red nodular limestones of Ghilcoș outcrop (lost).

Table 1. Measurements of *Streblites tenuilobatus* (Oppel 1863) specimens.

Specimen	Dmax	Dph	D	U	H	W	U/D	H/D	W/D	W/H
Lectotype	80	70	80	6	44	20	0.07	0.55	0.25	0.45
Preda 5MPN specimen	95	95	95	6	56	17	0.06	0.59	0.18	0.30
LRp212A8	42	38	42	3	24	9?	0.07	0.57	0.21	0.37

Remarks: The specimen of the Preda collection (5MPN) is a large phragmocone, undeformed and well-preserved, showing all morphological and morphometric characters comparable to the holotype (Table 1). My specimens are fragments of different sizes (LRp212A2, LRp210A2 are two juveniles) and in various conservation states; thus most of the specimens conserve partially the characteristic ornamentation, the internal ribs and the medio-lateral tubercles being hardly observable. The specimens could be determined mainly on the morphological characteristics of the outer half of the flanks, and on the whorl section and the morphology of the ventral side.

Occurrence: Early Kimmeridgian – Divisum Zone in Ghilcoș outcrops (A, B, D profiles); Early Kimmeridgian in Europe (Italy, Spain, Switzerland, Bulgaria, France and Germany).

Streblites weinlandi (Oppel 1863)
Pl. 1, Fig. 10

1863 *Ammonites weinlandi* nov.sp. - OPPEL; p. 198; Pl. 53, Fig. 1.
1879 *Oppelia levipicta* (Fontannes) - FONTANNES; p. 22; Pl. 3, Figs. 3, 4.
1929 *Streblites levipictus* Fontannes - WEGELE; p. 13; Pl. 25, Fig. 13.
?1978 *Streblites weinlandi* (Oppel) - *levipictus* (Fontannes) - OLORIZ; p. 47; Pl. 4, Figs. 1 a, b.
1983 *Streblites weinlandi* (Oppel) - SANTANTONIO; p. 152; Pl. 1, Fig. 3.
2011 *Streblites weinlandi* (Oppel) Morph *weinlandi* [M] (= Macroconch) - BAUDOUIN et al.; p. 634; Pl. 1, Fig. 8; Pl. 2, Fig. 1; Pl. 9, Figs. 1-8; Pl. 10, Figs. 1-5.

Material: LRp82D2 Grigore Collection in GIR.

Table 2. Measurements of *Streblites weinlandi* (Oppel 1863) specimens.

Specimen	Dmax	Dph	D	U	H	W	U/D	H/D	W/D	W/H
Lectotype	74	-	60	4	35	12	0.07	0.58	0.20	0.34
LRp82D2	51	51	51	3	30	13	0.06	0.59	0.25	0.43

Remarks: my specimen is a poorly preserved fragmocon, but with the distinctive characters of the species (Table 2).

Occurrence: Late Kimmeridgian-Acanthicum Zone in Ghilcoș outcrops (A, B, D profiles); Kimmeridgian - Strombecki - Compsum interval in Spain; Early Kimmeridgian in Italy, Germany, France.

Streblites folgariacus (Oppel 1863)
Pl. 1, Fig. 9

1863 *Ammonites Folgariacus* - OPPEL; p. 199; Pl. 54, Figs. 6 a, b.
1959 *Streblites folgariacus* (Oppel) - HOLDER & ZIEGLER; p. 202; Pl. 22, Fig. 4.
1978 *Streblites folgariacus* (Oppel) - OLORIZ; p. 52; Pl. 4, Fig. 6.
1993 *Streblites folgariacus* (Oppel) - SARTI; p. 69; Pl. 4, Figs. 6 a, b.
1994 *Streblites folgaricus* (Oppel) - FOZY et al.; Pl. 1, Figs. 2, 6, 7, 8.

Material: LRp222G12 Grigore Collection in GIR.

Remarks: my specimen (LRp222G12) is a small phragmocone, deformed in silty deposits. It preserves very well the specific ornamentation (ribs, tubers and keel), as well as the whorl section shape.

Occurrence: Early Tithonian – Hybonotum Zone in Ghilcoș outcrops (G profile); Late Kimmeridgian - Early Tithonian – Beckeri – Hybonotum interval in Europe (Switzerland, Germany, Italy, Spain, Hungary, Poland).

Genus *Creniceras* Munier Chalmas 1892
Creniceras dentatum (Reinecke 1818)
Pl. 1, Figs. 1, 2, 3.

1818 *Ammonites dentatus* - REINECKE; p. 73; Pl. 4, Figs. 43, 44.
1876 *Ammonites* (*Oppelia*) *dentatus* Reinecke - LORIOL; p. 46; Pl. 5, Figs. 4, 5.
1877 *Ammonites* (*Oppelia*) *dentatus* Reinecke - FAVRE; p. 57; Pl. 2, Fig. 4.
1879 *Oppelia dentata* Reinecke - FONTANNES; p. 52; Pl. 7, Fig. 10.
1958 *Creniceras dentatum* (Reinecke) - ZIEGLER; Pl. 11, Fig. 28.
1973 *Oppelia* (*Taramelliceras*) *dentata* Reinecke - PREDA; Pl. 7, Fig. 5.
1978 *Creniceras dentatum* (Reinecke) - OLORIZ; p. 119.
2011 *Streblites weinlandi* (Oppel) Morph *dentatum* [m] (= microconch) - BAUDOUIN et al.; p. 638; Pl. 1, Figs. 5, 6; Pl. 10, Figs. 6-14.

Material: LRp190R1, LRp184A2, LRp188A, LRp186D3, LRp504X5, LRp353T3,0, LRp448A2, LRp214A Grigore Collection in GIR. Preda's specimen (1973): was in the inventory of MPN Collection (lost or removed) – originates from red nodular limestones of Ghilcoş outcrop.

Table 3. Measurements of *Creniceras dentatum* (Reinecke, 1818) specimens.

Specimen	Dmax	Dph	D	U	H	W	U/D	H/D	W/D	W/H
Loriol (1876; fig.4) specimen	22	-	22	5	9	6	0.23	0.41	0.27	0.67
LRp190R1	16.5	15.5	16.5	3	8	4.5	0.18	0.48	0.27	0.56
LRp184A2	22	-	22	6	9	5	0.27	0.41	0.23	0.55
LRp188A	21	-	21	5	9	5.5	0.24	0.43	0.26	0.61
LRp214A	25,2	13.3	20	4.4	9.2	6	0.22	0.46	0.30	0.65

Remarks: the LRp190R1 specimen only preserves the phragmocone, the other specimens have and the living chamber, only one preserves the apophyses (LRp214A); all exhibit specific morphological and morphometric parameters (Table 3).

Occurrence: Late Kimmeridgian-Acanthicum Zone in Ghilcoş outcrops (R, B, D profiles); Acanthicum /Compsum Zone in Spain, France, Switzerland and Germany.

Genus *Semiformiceras* Spath, 1925 emended Oloriz 1978
Semiformiceras semiforme (Oppel 1865)
Pl. 1, Fig. 5

1865 *Ammonites semiformis* - OPPEL; p. 547.
1870 *Oppelia semiformis* Oppel - ZITTEL; p. 59; Pl. 4, Figs. 7, 8.
1973 *Semiformiceras semiforme* (Oppel) - ENAY & GEYSSANT; p. 43.
1978 *Semiformiceras semiforme semiforme* (Oppel) - OLORIZ; p. 67; Pl. 3, Figs. 5, 6.
1984 *Semiformiceras semiforme* (Oppel) - SARTI; p. 494; Pl. 1, Fig. 7.
1988 *Semiformiceras semiforme* (Oppel) - FOZY; p. 46; Pl. 1, Figs. 1 – 4.
1991 *Semiformiceras semiforme* (Oppel) - ENAY & CECCA; p. 56; Pl. 2, Figs. 18, 19.
1994 *Semiformiceras semiforme* (Oppel) - FOZY et al.; Pl. 1, Figs. 19-21.
1994 *Semiformiceras semiforme* (Oppel) - ZEISS et al.; Pl. 1, Fig. 3.

Material: LRp512aK42, LRp512bK42, LRp484K41 Grigore Collection in GIR.

Table 4. Measurements of *Semiformiceras semiforme* (OPPEL, 1865) specimens.

Specimen	Dmax	Dph	D	U	H	W	U/D	H/D	W/D	W/H
Lectotype	73	52	73	5	36	-	0.06	0.49	-	-
Paratype	67	-	67	4	32	18	0.06	0.48	0.27	0.56
LRp512aK42	40	~29	31	3	16	~9	0.09	0.51	0.30	0.56

Remarks: the LRp512aK42 specimen is small and has an elliptical shape; preserves a part of the living chamber, which shows the beginning of the specific ventral groove. The specimens LRp484K41 and LRp512bK42 are conch halves that partially preserves the specific ornamentation (Table 4).

Occurrence: Early Tithonian-Semiforme /Verruciferum Zone in Ghilcoş outcrops (K profile); Early Tithonian - Semiforme /Verruciferum Zone in Europe (Italy, Spain, Germany, France) and Russian Far East (SEY & KALACHEVA, 1997).

Semiformiceras fallauxi (Oppel 1865)
Pl. 1, Fig. 4

1865 *Ammonites fallauxi* - OPPEL; p. 547.
1870 *Oppelia fallauxi* Oppel - ZITTEL; p. 61; Pl. 4, Figs. 4 – 6.
1973 *Semiformiceras falllauxi* (Oppel) - ENAY & GEYSSANT; p. 44.
1978 *Semiformiceras falllauxi* (Oppel) - OLORIZ; p. 74; pl.
1991 *Semiformiceras fallauxi* (Oppel) - ENAY & CECCA; p. 54; Pl. 2, Figs. 11 – 17.

Material: LRp483K44, LRp526K43 Grigore Collection in GIR.

Table 5. Measurements of *Semiformiceras fallauxi* (Oppel 1865) specimens.

Specimen	Dmax	Dph	D	U	H	W	U/D	H/D	W/D	W/H
Lectotype	32	23	32	9.5	12.5	9	0.30	0.39	0.28	0.72
LRp483K44	33	25	33	9	14	›7	0.27	0.42	›0.21	›0.50
LRp526K43	25	23	23	5	11	7	0.22	0.48	0.30	0.64

Remarks: the LRp483K44 specimen is medium-sized and elliptically coiled; it preserves a part of the living chamber, which shows the beginning of the ventral groove and the specific ornamentation. The LRp526K43 specimen is smaller in size and preserves the beginning of the living chamber with the specific ornamentation (Table 5).

Occurrence: Early Tithonian-Fallauxi Zone in Ghilcoş outcrops (K profile); Early Tithonian-Fallauxi Zone in Europe (Italy, Spain, Germany, France and Crimea).

Family HAPLOCERATIDAE Zittel (1884) emended Callomon 1981
Genus *Haploceras* Zittel (1870) emended Enayi & Cecca 1986
Haploceras (*Haploceras*) *carachtheis* (Zeuschner 1846)
morphotype *carachtheis* (Zeuschner 1846)
Pl. 1, Fig. 6

1846 *Ammonites carachtheis* - ZEUSCHNER; Pl. 4, Fig. 1; refigured in ZITTEL (1868) Pl. 15, Figs. 1-3.
1962 *Glochiceras carachtheis* (Zeuschner) - BARTHEL; p. 17; Pl. 2, Figs. 1-4, Pl. 3, Figs. 1-7.
*non*1973 *Haploceras carachteis* Zeuschner - PREDA; Pl. 17, Fig. 13 (= *Aspidoceratidae*).
1976 *Haploceras* (*Neoglochiceras*) *carachtheis* (Zeuschner) - AVRAM; p. 168; Pl. 3, Fig. 8.
1986 *Haploceras* (*Haploceras*) *carachtheis* (Zeuschner, 1846)(m) - ENAY & CECCA; p. 49; Pl. 3, Fig. 1.
1991 *Haploceras* (*Haploceras*) *carachtheis* (Zeuschner, 1846) - CECCA & ENAY; p. 43; Pl. 1, Figs. 8 a, b.
1994 *Haploceras carachtheis* (Zeuschner) - FOZY et al.; Pl. 1, Figs. 16, 22.
1994 *Haploceras* (*Hypoglochiceras*) *carachtheis* (Zeuschner) - ZEISS et al.; p. 370; Pl. 2, Fig. 3.
1995 *Haploceras carachtheis* (Zeuschner, 1846) - FOZY; p. 136; Pl. 20, Fig. 12.

Material: LRp507K42, LRp482K41 Grigore Collection in GIR.

Remarks: the LRp507K42 is a whorl fragment from the aperture of a large individual: H> 23. The whorl section is oval, compressed, the ventral side is provided with wrinkles on the last portion of the living chamber. The LRp482K41 specimen is also a smaller fragment with the same characteristics.

Occurrence: Early Tithonian - Semiforme Zone in Ghilcoş outcrops (K profile); Early/Middle Tithonian in Europe.

morphotype *elimatum* (Oppel 1865) in Zittel 1868
Pl. 1, Fig. 7

1865 *Ammonites elimatus* - OPPEL; p. 549.
1868 *Ammonites elimatus* Oppel - ZITTEL; p. 79; Pl. 13, Figs. 1 – 7.
1962 *Haploceras elimatum* (Oppel) - BARTHEL; p. 11; Pl. 1, Figs. 12-17.
1973 *Haploceras subelimatum* Fontannes - PREDA; Pl. 9, Fig. 2.
1986 *Haploceras elimatum* (Oppel)(M) - ENAY & CECCA; p. 50; Pl. 4, Fig. 1.
1994 *Haploceras elimatum* (Oppel) - FOZY et al.; Pl. 1, Fig. 10.
1994 *Haploceras elimatum* Oppel-ZEISS et al.; p. 370; Pl. 1, Fig. 4.
1995 *Haploceras elimatum* (Oppel, 1865) - FOZY; p. 136; Pl. 20, Fig. 9.

Material: LRp525K44 Grigore Collection in GIR. Preda's specimens (1973): Collection of MPN inv. 21aMPN (Pl.10, Fig.5); originates from greenish sandstones (F1) – Ghilcoş outcrop.

Remarks: the specimen of Preda (*Haploceras subelimatum*: Pl. 9, Fig. 2) is of medium size and keeps the living chamber almost undeformed, but with aperture not well preserved; it shows the morphometric parameters almost identical to those of the Oppel species holotype. Morphologically, the species *H. subelimatum* Fontannes, differs from

H. elimatum Oppel by the presence of periombilical ribs (in the periombilical depressed area), which brings him closer to the *Glochiceras* group taxa.

The LRp525K44 specimen is a half-phragmocone of a small individual with morphometric parameters close to those of Oppel's holotype (Table 6).

Table 6. Measurements of *Haploceras* (*Haploceras*) *carachtheis* mph. *elimatum* (Oppel, 1865) specimens.

Specimen	Dmax	Dph	D	U	H	W	U/D	H/D	W/D	W/H
Lectotype	145	82	145	35	67	49	0.24	0.46	0.34	0.73
Preda 21aMPN specimen	49	-	43	11	20	14.5	0.25	0.46	0.34	0.72
LRp525K44	26	-	26	6	13	›8	0.23	0.50	0.31	›0.62

Occurrence: Early Tithonian - Fallauxi Zone in Ghilcoş outcrops (K profile); Early and Middle Tithonian in Europe, Russia, Madagaskar, Mexic, etc.

CONCLUSIONS

In conclusion, as mentioned in the introduction, only two species of the Streblitinae subfamily have been known in the region so now there are four other species: *Streblites weinlandi*, *S. folgariacus*, *Semiformiceras semiforme* and *S. fallauxi*. Thus the association and species of other genres, some of the Early Tithonian, have been completed. At the same time, the presence of haploceratids species (both morphotypes of *H. carachtheis carachtheis* and *elimatum*) from Early Tithonian was confirmed in the region, and the specimens mentioned by PREDA (1973) were also reviewed.

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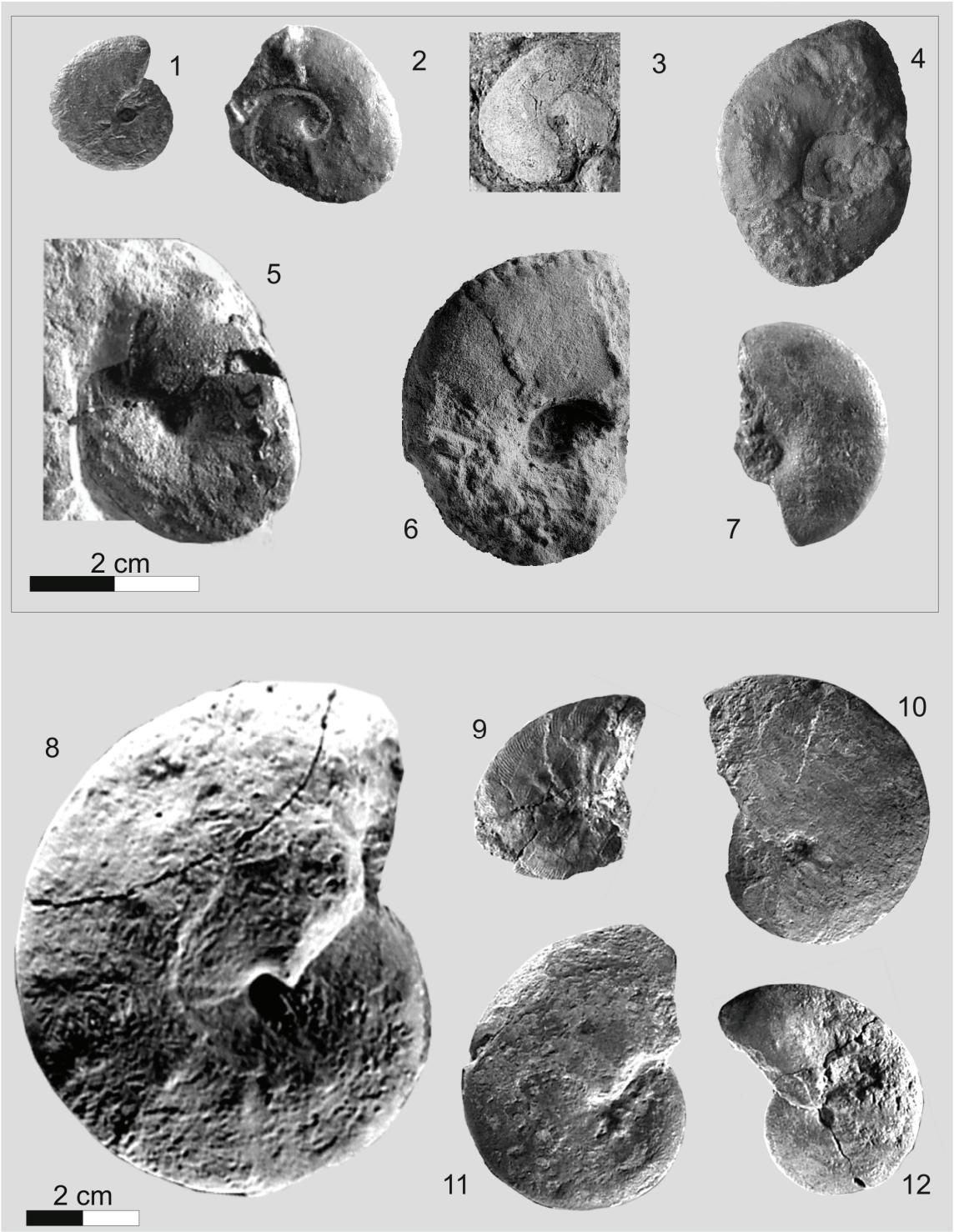
PLATE I



1. *Creniceras dentatum* (Reinecke) (LRp190R1); reddish nodular limestone, Early Kimmeridgian-Divisum Zone, Ghilcoş; 2. *Creniceras dentatum* (Reinecke) (LRp214A), green nodular limestone, Kimmeridgian, Ghilcoş; 3. *Creniceras dentatum* (Reinecke) (LRp504X5); green nodular limestone, Early Kimmeridgian-Divisum Zone, Ghilcoş; 4. *Semiformiceras fallauxi* (Oppel) (LRp483K44); grey-yellowish silts, Early Tithonian-Fallauxi Zone, Ghilcoş; 5. *Semiformiceras semiforme* (Oppel) (LRp512K42); grey-yellowish silts, Early Tithonian-Semiforme Zone, Ghilcoş; 6. *Haploceras carachtheis* (Zeuschner) morphotyp *carachtheis* (Zeuschner) (LRp507K42); yellowish silts, Early Tithonian-Semiforme Zone, Ghilcoş; 7. *Haploceras carachtheis* (Zeuschner) morphotyp *elimatum* (Oppel) (LRp525K44); yellowish silty marls, Early Tithonian-Fallauxi Zone, Ghilcoş; 8. *Streblites tenuilobatus* (Oppel) Preda's specimen-phragmocone; green nodular limestone, Early Kimmeridgian-Strombecki(?) Zone, Ghilcoş; 9. *Streblites folgariacus* (Oppel) (LRp222G12); yellowish silts, Early Tithonian-Semiforme(?) Zone, Ghilcoş; 10. *Streblites weinlandi* (Oppel) (LRp82D2); green nodular limestone, Late Kimmeridgian-Acanthicum Zone, Ghilcoş; 11. *Streblites tenuilobatus* (Oppel) (LRp80A2); green nodular limestone, Early Kimmeridgian-Divisum Zone, Ghilcoş; 12. *Streblites tenuilobatus* (Oppel) (LRp212A8); green nodular limestone, Early Kimmeridgian-Divisum Zone, Ghilcoş.