

**NEW DATA ABOUT THE AMMONITE FAUNA FROM THE TRIASSIC
DEVELOPED IN THE WENGEN FACIES
AT CATALOI (NORTH DOBRUDJA OROGEN)**

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Abstract

Since the faunal outcrop of Cataloi (Tulcea Nappe, North Dobrudja) was first documented in the XVIII-th century, the following ammonite taxa, Mid Triassic in age, were the first to be mentioned in relation to it: *Sageceras haidingeri walteri* MOJSISOVICS, *Asklepioceras* sp. (gr. *A. helenae* RENZ.) *Pterotoceras* aff. *arthaberi* WELTER, *Barrandeites* sp. (gr. *B. tubina* (DITTMAR), *Trachyceras* (*Protrachyceras*) sp., *Arpadites* sp. and *Aplococeras* sp. As far as the biostratigraphical value of the fauna is concerned, the Wengen facies of Cataloi is argued to belong to the Ladinian, not to the Carnian-Norian, the age attested until present day in the scientific literature.

Keywords: Ammonite taxa, Ladinian, Wengen facies, Cataloi, Tulcea Nappe, Romania

Historical framework

The Mid-Triassic of Cataloi (Tulcea area, North Dobrudja) is known since the second part of the XIX-th century (Peters, 1867). Throughout time, it was the research subject of many Romanian and foreign geologists, namely Redlich, 1896; Anastasiu, 1898; Kittl, 1908, 1912; Simionescu, 1925 etc.

Several paleontological remarks made previously must be highlighted, without excessive details about the historical data, however, given that it is best dealt with in the scientific papers.

The bivalve fauna is the richest and best known among all invertebrates. From Peters' paper (1867), *Daonella loemmelii* (WISSMANN, 1841) and *D. moussoni* (MÉRIAN, 1853) are known to be present here. V. Anastasiu (1898) mentioned *Halobia fluxa* (MOJSISOVICS, 1874), *H. lucana* (LORENZO, 1896) and *Halobia insignis*

(GEMMELLARO, 1882). Reviewing Anastasiu's material, Kittl (1908) considered that only *Halobia fluxa* is recorded here; the author also collected specimens of this species and added a new bivalve taxon, namely *Posidonomya cf. alta* (MOJSISOVICS, 1873). Simionescu (1925) studied minutely the bivalve fauna from Cataloi and described nine species: *Daonella loemmeli*, *D. tyrolensis* (MOJSISOVICS, 1874), *D. badiotica* (MOJSISOVICS, 1874), *D. pichleri* (GUEMBEL, 1873), *D. sturi* (BENECKE, 1868), *D. obliqua* (FRECH, 1910), *D. moussoni*, *Halobia styriaca* (MOJSISOVICS, 1874) and *Posidonia wengensis* (WISSMANN, 1841).

Excepting the bivalves, several fragments of ammonites were mentioned in the marl strata. Thus, Peters (1867) noted the presence of several large ammonite fragments, from which Mojsisovics (1873) derived the presence of the *Sageceras* genus in the Triassic of Cataloi. Kittl (1908) mentioned the presence of *Protrachyceras cf. archelaus* (LAUBE, 1865), *P. cf. pseudo-archelaus* (BOECKH, 1875) and *Sageceras* sp.

New data about the Ammonite fauna

The Cataloi area is part of Tulcea Nappe, North Dobrudja Orogen; the Alpine limestone and marls were separated into a distinctive formation (the Cataloi Formation), Ladinian-Carnian in age. There are grey-greyish marls, which become yellowish-greyish in colour after alteration; in the marl body, lens of hard greyish limestones, sometimes easily sandstoned are known. The fossil records proceeded from these marls.

The fauna described in the present paper was collected during several periods of itinerant fieldwork carried out with different student series throughout the final decades of the last century. The samples come from Cataloi fossil ore, more precisely from the yellowish-greyish marls which appear in the proximity of the road and on the neighbouring slope. Thus, a significant fossil material was stored, especially pteriid bivalves which belong to the *Halobiidae* family.

The presence of the following taxa was established: *Posidonia wengensis*, *Daonella (Loemmelella) loemmeli*, *D. (L.) sturi*, *D. (L.) marmolatae* KITTL, 1912, *D. (L.) aff. gaderana* KITTL, 1912, *Daonella (Pichlerella) pichleri* GÜMBEL, 1873, *D. (P.) noduligera* BITTNER, 1895, *D. (Arzelella) indica* BITTNER, 1899, *D. (A.) bulogensis* KITTL, 1912, *D. (Grabella) cf. subtenuis* KITTL, 1912 and *Stefaninia ogilviae* BITTNER, 1895.

This bivalve fauna was quoted by almost all authors who wrote on the topic, and we do not wish to describe it here. As we have pointed out in the title, the aim of the paper is to signal the small ammonite taxa. Sometimes rare and badly preserved, the ammonite specimens could still be determined. We noted the following taxa:

Sageceras haidingeri (HAUER, 1847)

Sageceras haidingeri walteri (MOJSISOVICS, 1882)

Asklepioceras sp. (gr. *A. helenae* RENZ, 1910)

Pterotoceras aff. *arthaberi* WELTER, 1915

Barrandeites sp. (gr. *B. tubina* (DITTMAR, 1866))

Trachyceras (Protrachyceras) sp.

Arpadites sp.

Aplococeras sp.

In agreement with the opinions of many authors, the presence of the Wengen facies is beyond doubt (taking into consideration the lithological content and especially the biostratigraphic one). As several taxa from our list have never been described and figured until now in Romania, we will make a short presentation of these ammonites.

Paleontology

Order *PROLECANITIDA* MILLER and FURNISH, 1954

Family *Sageceratidae* HYATT, 1900

Genus *Sageceras* MOJSISOVICS, 1873

Sageceras haidingeri (HAUER, 1847)

Pl. I, fig. 1, 2

The species was mentioned at Cataloi, without any figure; although our specimens are sometimes badly preserved and easily deformed, they show the characteristic features for the species and also its big dimensions (D= 8cm).

Ladinian-Early Carnian; Alps, Carpathians, Balkans, Timor.

Sageceras haidingeri walteri MOJSISOVICS, 1882

Pl. I, fig. 3

1910. *Sageceras haidingeri* HAUER var. *Walteri* MOJSISOVICS emed. RENZ. Renz, p. 43, pl. 11, fig. 6

The species was considered ambiguous by several authors, but we believe that Renz's argumentation is able to keep this subspecies independent. Our specimens show almost perfectly preserved suture lines and the particular features outlined by Renz.

Ladinian. Alps, Balkans.

Order *CERATITIDA* MOJSISOVICS, 1879

Family *Aplococeratidae* SPATH, 1951

Genus *Aplococeras* HYATT, 1900

Aplococeras sp.

Fragment of discoidal subevolute shell, with the sculpture showing umbilical ridges, which become easily flexuous and anastomosed until the venter.

Ladinian. Alps.

Family *Trachyceratidae* HAUG, 1894
Genus *Trachyceras* LAUBE, 1869
Subgenus *Protrachyceras* MOJSISOVICS, 1893

Trachyceras (Protrachyceras) sp.
Pl. I, fig. 8

Specimen representing a lateral imprint, rather badly preserved, but one can observe clearly the ribs with tubercles, respectively the typical features for the genus.
Ladinian.

Family *Arpaditidae* HYATT, 1900
Genus *Asklepioceras* RENZ, 1910

Asklepioceras sp.(gr. *A. helenae* RENZ, 1910)
Pl. I, fig. 4,5

Specimens with discoidal convolute shell, which show the characteristic constrictions: very sinuous on the flank and prorsiradiate on the venter area.
Ladinian-Early Carnian. Balkans.

Family *Tibetitidae* HYATT, 1900
Genus *Pterotoceras* WELTER, 1915
Subgenus *Protrachyceras* MOJSISOVICS, 1893

Pterotoceras aff. *arthaberi* WELTER, 1915
Pl. I, fig. 7

1915. *Pterotoceras arthaberi* WELTER, p. 83-84, pl. 85(3), fig. 1 a-c.

Despite the small dimensions (D= 1.7cm) and a precarious preservation, our specimen kept clearly the sculpture on the lateral-external flank, respectively the characteristic clavi which indicate the presence of the genus. One can notice 10 clavi on half of the last whorl, which suggest the closeness of the specimen to Welter's species (20 clavi on one whorl).

Ladinian. Timor, Alps.

Family *Haloritidae* MOJSISOVICS, 1893
Genus *Barrandeites* MOJSISOVICS, 1893

Barrandeites sp. (gr. *B. tubina* (DITTMAR, 1866))
Pl. I, fig. 9

There is a small specimen (D=1.5cm), not very well preserved, which shows an involute shell with four constrictions, disposed cross-way. The constrictions are clearer on the umbilical area and become more wiped until the venter.

Ladinian-Carnian. Alps.

Conclusions

By viewing the biostratigraphical value of the quoted species, one deduces that the strata from Cataloi undoubtedly belong to the Ladinian, to the so-called Wengen facies. Based on this fauna, we cannot speak about Carnian-Norian at Cataloi, as Mutihac (1961) claimed.

We also pointed out that the *Pterotoceras*, *Barrandeites* and *Aplococeras* could be mentioned for the first time in Romanian paleontology.

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PLATE CAPTIONS

PLATE I

- 1, 2 - *Sageceras haidingeri* HAUER, (x 0.4)
- 3 - *Sageceras haidingeri walteri* MOJSISOVICS, (x 1)
- 4, 5 - *Asklepioceras* sp. (gr. *A. helena* RENZ), (x 1.5)
- 6 - *Aplococeras* sp., (x 1.7)
- 7 - *Pterotoceras* aff. *arthaberi* WELTER, (x 1.7)
- 8 - *Trachyceras* (*Protrachyceras*) sp., (x 1.2)
- 9 - *Barrandeites* sp. (gr. *B. tubina* DITTMAR)
- 10 - *Arpadites* sp., (x 0.7)
- 11, 12 - *Conularia* sp.
- 13, 14 - *Stephaninia ogilviae* BITTNER, (x 1.1; x 1.7)



1



2



3



4



5



6



7



8



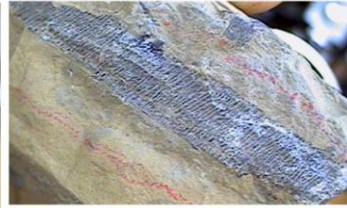
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