

## On a Middle Jurassic phylloceratid ammonite from the Bakony Mts (Hungary)

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### Új adatok egy bakonyi középső jura phylloceratid ammoniteszről

#### Összefoglalás

A 2010-es években a Magyar Állami Földtani Intézet Rákóczi-telepi raktárából előkerültek azok az anyagok, amelyeket korábban, még az 1940-es, 50-es években ifj. NOSZKY Jenő gyűjtött a Bakony-hegységben. Ezek között megtalálható volt az a Bakonybél melletti, korábban Pénzeskúthoz tartozó Som-hegyről való kisebb ammoniteszgyűjtemény, amelyről NOSZKY 1943-ban röviden hírt adott. 1959-ben újra kézbe vette az anyagot, és nagyon jellegzetes, egyedi bélyegek alapján egy új fajra alapítható, új phylloceratid ammonitesz genust ('*Canaliphylloceras* nov. gen.') azonosított. Erről csak az ősmaradványokkal együtt fennmaradt cédulákból tudunk, mivel sem a többi ammoniteszre vonatkozó – egyébként többnyire helyes – meghatározásról, sem a szerinte új taxonokról semmit nem publikált.

A NOSZKYtól újnak tekintett formák valóban önálló, a többi rokon Phylloceratidától jól különböző alakok, amelyek azonban 1980-ban, mit sem tudva NOSZKY som-hegyi ammoniteszeiről, a hasonló korú, szintén bakonyi, Gyenespusztai faunából is azonosításra és szabályos leírásra kerültek *Adabofoloceras hajagense* n. sp. néven (GALÁ CZ 1980).

Az itt közölt adatok, valamint az 1959-ben azonosított példányok bemutatása tisztelgés NOSZKY Jenő, a bakony-hegységi jura nagy tudású kutatója emléke előtt.

Tárgyszavak: Bakony-hegység, Som-hegy, késő bajoci, Phylloceratidae, ifj. Noszky Jenő

#### Abstract

Unknown fossil collections from the Bakony Mts, collected by J. NOSZKY Jnr. during his mapping activity in the 1940s and 1950s were found in the storage facility of the Hungarian Geological Institute in the 2010s. In these materials from the Upper Bajocian (Middle Jurassic) from the Som-hegy of Bakonybél (formerly known as part of Pénzeskút) some specimens were determined by NOSZKY in 1959 as '*Canaliphylloceras*' nov. gen. nov. sp. However, NOSZKY never published these faunal studies, and his designations have only been preserved as notes written on the labels of the specimens. The same form identified by NOSZKY was also identified as a new species from Gyenespuszta, another Middle Jurassic locality in the Bakony Mountains, in 1980 with the name *Adabofoloceras hajagense* n. sp. GALÁ CZ, 1980. The name suggested by Noszky is invalid; however, his distinction of these forms as representing an individual taxon is justified. This contribution is a tribute to Jenő NOSZKY, a great researcher of the Hungarian Jurassic by making his faunistic study known and showing his original specimens.

Keywords: Bakony Mts, Som-hegy, Late Bajocian, Phylloceratids, J. Noszky

#### Introduction

When working on the Bajocian–Bathonian ammonites from Gyenespuszta, Bakony Mts, a new phylloceratid ammonite was described as a new species (*Adabofoloceras hajagense* n. sp. GALÁ CZ 1980, p. 34) because it differed from all known Middle Jurassic phylloceratids. Recently it turned

out that J. NOSZKY Jnr. (1909–1970), the outstanding geologist and well-informed Jurassic worker of the Hungarian Geological Institute identified the same, morphologically well-distinguishable form, also on the basis of specimens from the Bakony Mts back in the 1950s. He labelled his specimens as representing a new species of a new genus. Unfortunately, this material remained forgotten lying in a

repository of the Geological Institute for decades. To honour Jenő NOSZKY, a great researcher of the Hungarian Jurassic, this record is introduced here.

### A new phylloceratid from Gyenespuszta, Bakony Mts

The Bajocian–Bathonian ammonite fauna of Gyenespuszta is exceptional within the Mediterranean Tethys, because in this interval in almost all regions siliceous deep-sea radiolarite was deposited, a sediment in which calcareous skeletal elements are not preserved. However, in this limited area of the Bakony Mts, which probably formed an elevated submarine high in the pelagic ocean, calcareous sedimentation, though highly incomplete, survived up until the latest Bathonian.

According to the pelagic position of the region, most common ammonites in the rocks are Phylloceratids and Lytoceratids. Even in the Upper Bajocian part of the Gyenespuszta section the beds are characterised by the dominance of Phylloceratids. In beds 16 and 17 (*Strenoceras niortense* and *Garantiana garantiana* zones) Phylloceratids represent 62.4% and 58.7% of the fauna, respectively. These percentages amount to 857 and 116 collected specimens in the rich fauna.

No wonder, in these rich assemblages, new forms also appeared. One of the newly designated species was *Adabofolloceras hajagense* n. sp. This was described on the basis of 31 specimens from the Niortense and the Garantiana zones. One 60 mm diameter example was designated as holotype (GALÁ CZ *loc. cit.*, pl. 4, fig. 1, text-fig. 22), and is refigured here (Fig. 1c).

The new species belongs to the genus *Adabofolloceras* JOLY, 1976, based on its small size, flattened lateral sides and simple ribs restricted to the outer part of the flanks and the venter. Its specific features are the strong, forwardly arched, wrinkled outer ribs on the body chamber, the shallow, but well-distinguished spiral groove on the flank, and some characteristic elements of the suture-line. Its species name refers to the Hajag Hills, the wider neighbourhood of the Gyenespuszta locality. The species was identified later in Spain (SANDOVAL 2016), in France (RULLEAU 2011), while PAVIA (1983) regarded it as a junior subjective synonym of *Ptychophylloceras longarae* STURANI, 1971.

### A Middle Jurassic locality on the Som-hegy of Bakonybél

In the 2010s, when tracing some particular fossils in the Rákóczi-telep storage facility of the then Geological Institute (now Supervisory Authority for Regulatory Affairs), several fossils came to light, including those having been collected by J. NOSZKY in the Bakony Mountains during the 1940s and 1950s. One fauna represented the Late Bajocian of Som-hegy (Som Hill), near Bakonybél. He collected the

ammonites in 1940, and published the summary on his mapping activity in 1943 (NOSZKY 1943). He accurately recorded the day (6<sup>th</sup> of July, 1940) of collection on the labels of his specimens<sup>1</sup>. In the small ammonite collection, there were three phylloceratid specimens labelled as belonging to a new species of '*Canaliphylloceras*,' a new genus. However, these ammonites represented the above mentioned *Adabofolloceras hajagense* designated from Gyenespuszta in 1980.

The Som-hegy of Bakonybél was a previously known locality of Jurassic fossils, coincidentally, the very first in the Bakony Mts where Jurassic ammonites were ever recorded. This pioneering discovery was made in 1862 by K. M. PAUL, a geologist of the Geologische Reichsanstalt in Vienna, who gave a short list of his identified specimens, including '*Ammonites dimorphus* D'ORB.'. He mentioned that the assemblage was dominated by 'Heterophyllen,' i.e. Phylloceratids (PAUL 1862).

NOSZKY, in his 1943 paper, listed some ammonites, probably from the same place where PAUL collected the first ammonites. NOSZKY mentioned the genera *Stephanoceras*, *Phylloceras*, *Morphoceras* and *Perisphinctes*, and recorded *Apsoroceras baculatum* (QU.) and *Spiroceras bifurcarum* (QU.), the two latter heteromorphs as first occurrences from Hungary<sup>2</sup>.

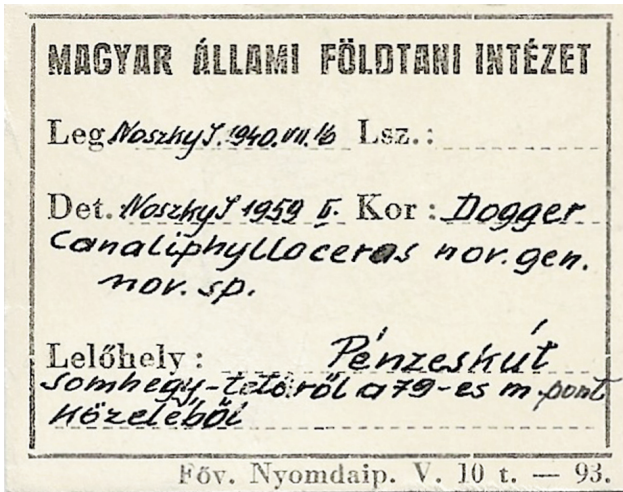
In the 1960s J. KONDA revisited the Jurassic localities of the Bakony Mts, including the one on Som-hegy (KONDA 1970, pp. 186–188). He discovered a rich fissure-filling fauna with ammonites and other molluscs in the Late Triassic Dachstein Limestone. The age of the fissure-filling red micritic limestone was given as Late Bajocian, *Stephanoceras humphriesianum* to *Garantiana garantiana* zones. Above the Dachstein Limestone, with a significant stratigraphic hiatus, Middle Jurassic red, nodular Rosso Ammonitico limestone beds succeed, with ammonites indicating at least two levels, and a gap in between. Three lower beds yielded ammonites from the Humphriesianum Zone, and the five beds above gave species [incl. *Dimorphinites dimorphus* (d'Orb.)] and *Parkinsonia* spp. characteristic to the Parkinsoni Zone of the Late Bajocian (GALÁ CZ 1975).

### New phylloceratids in the old Noszky collection

In 1959, when NOSZKY became interested in his earlier collections, he thoroughly re-studied the Som-hegy fossils. He determined the ammonites mostly correctly. The majority of the ammonites with *Dimorphinites dimorphus* (D'ORBIGNY), *Cadomites deslongchampsii* (D'ORBIGNY), *Vermisphinctes martiusi* (D'ORBIGNY) indicates the Parkinsoni Zone, while *Garantiana bifucata* (ZIETEN),

<sup>1</sup>It was a Friday, a notable day in history. On this very day Hitler gave the order for preparations of German landing in Great Britain ('*Operation Seelöwe*').

<sup>2</sup>As a matter of fact, the first to find a Late Bajocian heteromorph (*Spiroceras* sp.) in Hungary was M. HANTKEN, who collected a specimen from the Fekete-hegy, near Som-hegy, in the late 1860s (see HANTKEN 1870, p. 59). He identified the specimen as *Hamites* sp., which suggested Tithonian age to him (see GALÁ CZ 2022).



**Figure 1.** An original label written by J. NOSZKY, belonging to one of his newly identified phylloceratid specimens

**1. ábra.** NOSZKY Jenő saját cédulája, amelyet a Som-hegyről gyűjtött, új phylloceratid taxonként meghatározott egyik példányhoz mellékel

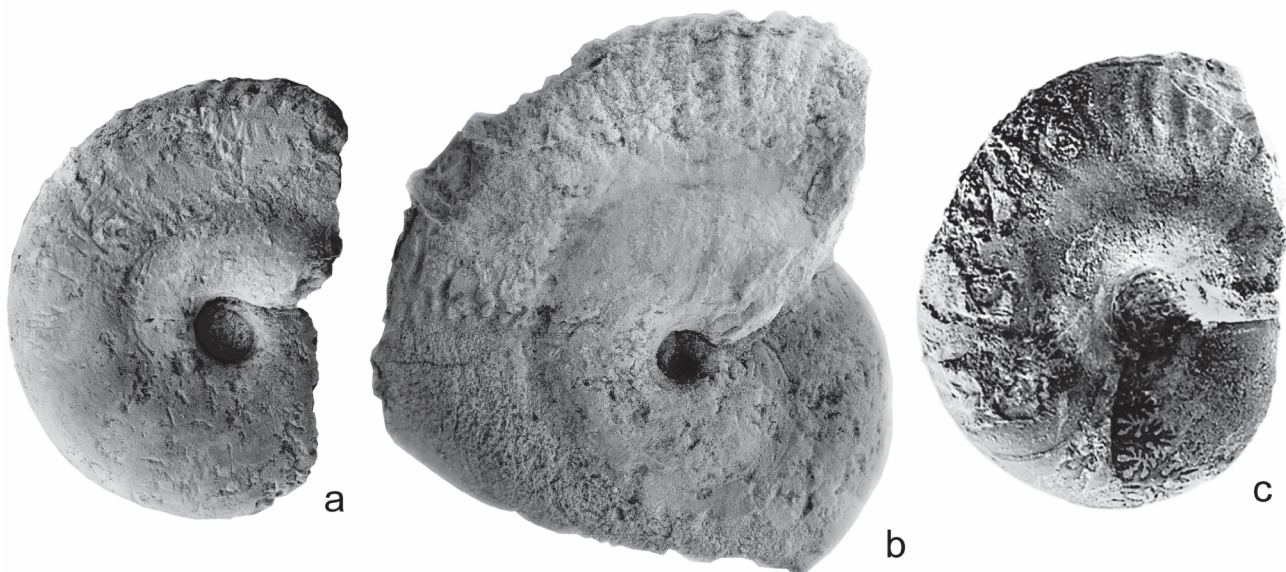
*Sphaeroceras brongniarti* (SOWERBY), and some Oppedids point to the Garantiana garantiana Zone. A few stephanoceratids suggested the presence of the Stephanoceras humphriesianum Zone as well. Later, in the 1960s and 70s all these ammonite species were also identified in the Gyenespuszta Upper Bajocian fauna from beds of similar age (GALÁ CZ 1980).

Investigating the faunula, NOSZKY noticed the characteristically sculptured Phylloceratids. These strange forms aroused his interest and after recognizing their unique mor-

phology, he suggested a new taxon: *Canaliphylloceras* nov. gen. The name is obviously an allusion to the unusual morphological element, the longitudinal spiral groove on the flank. He regarded the specimens as representing new species within his proposed new genus; however, a new species name was not indicated. All these are attested by the surviving labels, handwritten by NOSZKY himself (Figure 1). Most probably, he arrived to this faunistic conclusion when he prepared his comprehensive summary on the Jurassic of Hungary, which he presented in the Mesozoic Conference held in Budapest in 1959 (NOSZKY 1960). He numbered the specimens, and the best prepared one, with number 'Can 1' was probably regarded as the most typical (see here in Figure 2a). The bigger specimen (Figure 2b) is numbered as 'Can 2'. All specimens are internal moulds, preserving shorter or longer parts of the body chamber, but lacking the aperture.

NOSZKY, in his later works where he discussed the Jurassic formations, the fossil localities or fossils of the Bakony Mts (e.g., in NOSZKY 1972), never mentioned again the Som-hegy Late Bajocian fauna; thus, his new ammonites remained unknown.

'*Canaliphylloceras*' of NOSZKY is an invalid name according to the International Code of Zoological Nomenclature (see KOVÁCS 2022). Nevertheless, realization of the lateral spiral groove as a unique morphological feature justifies the designation of a new species based on specimens found later in rocks of the same age and area. This faunistic recognition goes to prove that Jenő NOSZKY was not only an outstanding field geologist, but also a past master of Jurassic ammonites.



**Figure 2.** *Adabofoloceras hajagense* specimens from the Bakony Mts. a-b: Original specimens named '*Canaliphylloceras* nov. gen. nov. sp.' by J. NOSZKY from Som-hegy; c: The holotype of the species from Gyenespuszta (GALÁ CZ 1980, pl. 4, fig. 1, in the collections of the Mining and Geological Survey of Hungary, No. J9218)

**2. ábra.** *Adabofoloceras hajagense* példányok a Bakonyból. a-b: NOSZKY Jenő som-hegyi, '*Canaliphylloceras* nov. gen. nov. sp.'-nek nevezett példányai; c: A faj Gyenespusztáról leírt holotipusa (GALÁ CZ 1980, pl. 4, fig. 1, a Magyar Bányászati és Geológiai Szolgálat gyűjteményében, J9218 számon)

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