

GEOLOGIE UND PALÄONTOLOGIE

**Upper jaws of Placenticeratidae from the Karst Plateau
(Upper Cretaceous, Slovenia)**by Herbert SUMMESBERGER¹, Bogdan JURKOVŠEK² & Tea KOLAR-JURKOVŠEK²

(With 2 Text-figures)

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Abstract

Presumable upper jaws of the Placenticeratidae (Ammonitina) are described from the Campanian (Late Cretaceous) Tomaj Limestone of the Komen-Trieste Plateau of the Slovenian Karst.

Zusammenfassung

Die vermutlichen Oberkiefer von Placenticeratiden aus dem Tomaj Kalk (Campan, Oberkreide) des Plateaus von Komen - Triest im Slowenischen Karst werden beschrieben.

Introduction

Ammonites, lower jaws, rollmark structures and a cluster of small brachiopods as a possible crop content were described from the black laminated Tomaj Limestone of the Trieste - Komen Plateau by SUMMESBERGER et al. (1996a - 1999a). Despite poor preservation the ammonites from the villages Dobravlje and Kazlje (Slovenia) were identified (SUMMESBERGER et al., 1996a) as Lower Campanian Placenticeratidae of the *bidorsatum* - *milleri* group. The rollmarks were interpreted as prints of the hyponome (SUMMESBERGER et al., 1999a).

Careful collecting yielded two jaw remains which are described below as the upper jaws possibly belonging to exclusively occurring Placenticeratidae.

Material

Both specimens (BJ 1533a; 1533b,c) are from Dobravlje near Sežana (Slovenia). They are stored in the palaeontological collection of Dr. Bogdan JURKOVŠEK at Dol pri Ljubljani (Slovenia) and registered at the Slovenian Museum of Natural History (Ljubljana).

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Text-fig. 1: Upper jaw of Placenticeratidae gen. et sp. indet. from the Late Cretaceous Tomaj limestone of Dobravljje, Slovenia. Collection B. JURKOVŠEK BJ 1533a. x 3.

Description

Three U-shaped black structures are visible on the dark brown surface of three slabs of Tomaj limestone from Dobravljje. The better one (BJ 1533 a, text-fig.1) is totally flattened and preserved in black substance on the bedding plane. The second specimen (BJ 1533 b,c; not figured) is larger but split in the bedding plane. The black coaly substance does not provide additional details.

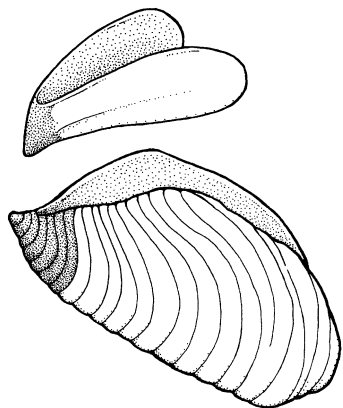
BJ 1533 a (text-fig.1) shows a bilaterally symmetric U-shaped structure with a faintly elongated median tip, which is covered by a black shiny coating. The lateral walls are spatulalike with a median ridge (text-fig. 2). The length of the lateral wall (ML) is about 12 mm. The width at the posterior end of the lateral walls is about 11 mm, the angle is 36° . The measurements are fitting to the length of the wings of lower jaws (MW) from 5,6 to 17,7 mm (SUMMESBERGER et al., 1996 a, Tab. 2).

Interpretation

Size, shape and preservation lead to an association with the lower jaws of Placenticeratidae from the same site in the Slovenian Karst (SUMMESBERGER et al., 1996 a). The median ridges on the walls are interpreted here as muscular attachment elements. The median ridge may be seen also as a deformation pattern due to compaction. The attempt of a reconstruction of the jaws (text-fig.2) of the Placenticeratidae leads to a "horny " beak, the lower jaw strengthened by a thin layer of calciumcarbonate, the upper jaws by the median ridge, the tips covered by a black shiny substance (? conchioline). Ammonite jaws of this type are described from *Damesites* (TANABE 1983) and *Scalarites*(TANABE, HIRANO & KANIE, 1980).

Discussion

The upper jaws of *Damesites* (TANABE 1983, text-figs.2,3) differ by higher side walls, undulations and absence of the median ridge. That of *Scalarites* (TANABE, HIRANO &



Text-fig. 2: Reconstruction of the jaws of Placenticeratidae based upon material from the Tomaj limestone of Slovenia. Not to scale. Size relation of lower and upper jaw elements tentatively.

KANIE, 1980) have a distinct hood, larger side walls and also lack the median ridge. Jaw elements of *Tetragonites*, *Gaudryceras* and *Neophylloceras* described by TANABE, FUKUDA, KANIE & LEHMANN (1980) are strongly calcified which is in contrast to the delicate jaws of *Placenticeratidae*. The upper jaws of *Reesidites* (TANABE & FUKUDA 1987) are shorter with higher side walls. It seems that the upper jaws of Placenticeratidae can be distinguished by the presence of the median ridge from all other upper jaws of Cretaceous ammonites described.

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References

- SUMMESBERGER, H., JURKOVŠEK, B. & KOLAR-JURKOVŠEK, T. (1996a): Aptychi associated with ammonites from the Lipica-Formation (Upper Cretaceous, Slovenia). – Ann. Naturhistor. Mus. Wien, **97A**: 1-19.
- SUMMESBERGER, H., JURKOVŠEK, B. & KOLAR-JURKOVŠEK, T. (1996b): Association of aptychi and ammonites in Upper Cretaceous carbonates of Slovenia. – IV. International Symposium "Cephalopods Present and Past", Abstract Volume: 161-162. – Granada.
- SUMMESBERGER, H., JURKOVŠEK, B. & KOLAR-JURKOVŠEK, T. (1999): Rollmarks of soft parts and a possible crop content of Late Cretaceous Ammonites from the Slovenian Karst. – Advancing Research on Living and Fossil Cephalopods. 335-344. – New York (Plenum Publishers).
- SUMMESBERGER, H., JURKOVŠEK, B. & KOLAR-JURKOVŠEK, T. (1999): Upper jaws of Placenticeratidae from the Karst Plateau (Upper Cretaceous, Slovenia). – Abstracts of the 5th Int. Symposium "Cephalopods - Present and Past", Vienna 1999: p. 107. – Wien.
- TANABE, K. (1983): The jaw apparatus of Cretaceous desmoceratid ammonites. – Palaeontology, **26/3**: 677-686.
- TANABE, K. & FUKUDA, Y. (1987): The jaw apparatus of the Cretaceous ammonite *Reesidites*. – Lethaia, **20**: 41-48.

- TANABE, K., FUKUDA, Y., KANIE, Y. & LEHMANN, U. (1980): Rhyncholites and conchorhynchids as calcified jaw elements in some late Cretaceous ammonites. – *Lethaia*, **13**: 157-188.
- TANABE, K., HIRANO, H. & KANIE, Y. (1980): The jaw apparatus of *Scalarites mihoensis*, a late Cretaceous ammonite. – Prof. S.Kanno Mem. vol.: 159-165.