Geol. Paläont. Mitt. Innsbruck, ISSN 0378–6870, Bd. 16, S. 207–211, 1989

Pseudofurnishius sosioensis n. sp., A NEW CONODONT SPECIES FROM THE LATE LADINIAN OF SOSIO VALLEY, WESTERN SICILY (ITALY)

M. Gullo, Palermo & H. Kozur, Budapest

With 2 figures and 1 plate

Abstract: *Pseudofurnishius sosioensis* n.sp., the hitherto known most primitive *Pseudofurnishius* species, is described from pelagic sediments of the uppermost *B. hungaricus*-A.-Z. of the uppermost Longobardian (Late Ladinian) age. In the type locality, there is a phylomorphogenetic line *P. sosioensis* n. sp. (smooth bi-platform type) - *P. huddlei* VAN DEN BOOGARD & SIMON (sculpturate bi-platform type) - *P. murcianus* VAN DEN BOOGARD (sculpturated mono-platform type, primitive forms still with rudimentary outer platform).

Zusammenfassung: Aus pelagischen Sedimenten der obersten *B. hungaricus* A.-Z. des jüngsten tieferen Longobard (Oberladin) wird *Pseudofurnishius sosioensis* n. sp., bislang als primitivste *Pseudofurnishius*-Art bekannt, beschrieben. An der Typuslokalität besteht eine phylomorphogenetische Linie *P. sosioensis* n. sp. (glatter Bi-Plattform-Typ) - *P. huddlei* VAN DEN BOOGARD & SIMON (skulpturierter Bi-Plattform-Typ) - *P. murcianus* VAN DEN BOOGARD (skulpturierter Mono-Plattfom-Typ, primitive Formen noch mit rudimentärer äußerer Plattform).

1. Introduction

During the investigations of the Permian and Triassic of the Sosio Valley (western Sicily, Italy) by a team of the Geological Department of Palermo University in cooperation with H. Kozur (Budapest), the decisive missing link between the genera *Neogondolella* BENDER & STOPPEL and *Pseudofurnishius* VAN DEN BOOGARD, *Pseudofurnishius sosioensis* n. sp., was found in pelagic Late Ladinian sediments (CATALANO et al., 1988 b).

The importance of this species for the derivation and phylogeny of the genus *Pseudofurnishius* as well as the stratigraphic importance of the complete *Pseudofurnishius* line, found in the well dated type locality (Fig. 1), are discussed in a separate paper. Here only the diagnosis of *P. sosioensis* is given.

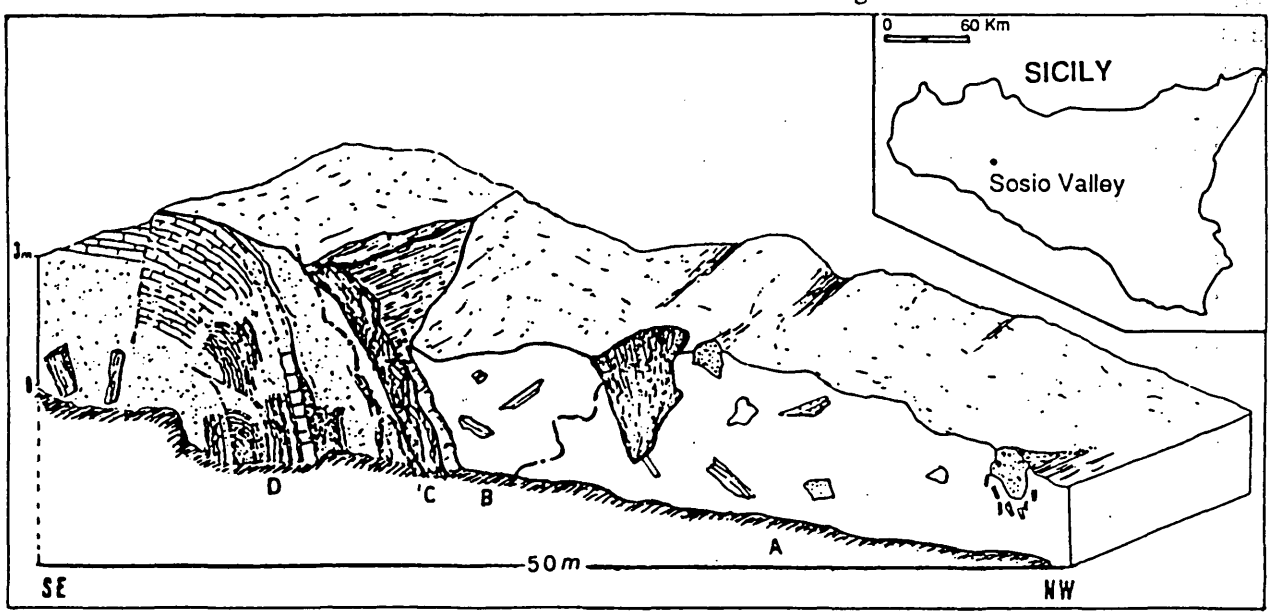

Fig. 1:

Geological sketch of the Torrente San Calogero section SW of Pietra di Salomone (Sosio Valley) (from CATALANO et al., 1988 a). From NW to SE it is possible to follow an overturned sequence of tectonic slices: A) Olistostrome unit (gray clays with olistoliths), lowermost Middle Permian. B) Red shales, higher Middle Permian-Late Permian. C) Greenish siliceous marls, siliceous limestones, tuffites and gray radiolarites, Lower Ladinian. D) Greenish-gray and red nodular cherty limestones and marls, thin red radiolarites, Late Ladinian to Cordevolian ? (the studied material was collected in these last deposits.).

2. Systematic description

Genus: *Pseudofurnishius* VAN DEN BOOGARD, 1966
Type species: *Pseudofurnishius murcianus* VAN DEN BOOGARD, 1966

***Pseudofurnishius sosioensis* n. sp.**

Pl. 1, figs. 1-7
Material: 23 specimens.
Holotype: Figured specimen in Pl. 1, figs. 1-3, Rep.-no. CK/VIII-2, collection of Dipartimento di Geologia e Geodesia, Palermo.
Derivatio nominis: According to the occurrence in the Sosio Valley.
Locus typicus: Left bank of the Torrente San Calogero creek, SW of the Pietra di Salomone (Sosio Valley, western Sicily).
Stratum typicum: Sample 638, greenish-gray clay between greenish-gray to reddish cherty nodular limestones with *Daonella*, near the boundary between Lower and Middle Longobardian, transition between the *B. hungaricus* and *B. mungoensis* A.-Z.
Diagnosis: Blade straight or only slightly laterally curved, with 7-9 laterally compressed denticles. The denticles are high, rather broad, but only basally fused. The first 3 denticles have about the same length or their size increases only slightly in posterior direction. The size of the next denticles increases and only the last 2 denticles are considerably smaller than the foregoing ones. The first denticles are erect or only slightly inclined, then inclination increases more and more rapidly and the last denticles are strongly inclined, the posteriormost often in prolongation of the blade.

Platform narrow, quite smooth. On the outer (convex) side of the blade the platform is long, missing only in the posteriormost part. On the inner (concave) side of the blade the platform is always considerably shorter than the outer platform, sometimes it is only present in the anteriormost part of the unit.

The basal furrow is distinct and broad in the anterior half of the unit, but indistinct in the posterior part of the unit. The basal cavity lies in or somewhat behind the midlength of the unit. It is subdivided into 2 pits, the anterior one is broad and oval to roundish, the posterior one is furrow-like elongated.
Occurrence: This species is restricted to the transition between the *B. hungaricus* and *B. mungoensis* A.-Z. (see Fig. 2) sensu KOZUR (1980). Until now only known from the Torrente San Calogero section, but similar forms are known from Jordan (SADDEDIN, in prep.).
Comparisons: *Pseudofurnishius sosioensis* n. sp. is the missing link between the genera *Neogondolella* BENDER & STOPPEL and *Pseudofurnishius* VAN DEN BOOGARD. The existence of such forms were already predicted by KOZUR (1972, 1980). The platform is still smooth, like in *Neogondolella*, but at least on the inner side of the blade the platform is already strongly reduced, like in *Pseudofurnishius*. The basal cavity lies about in the midlength of the unit, like in *Pseudofurnishius*, and like in all members of the *Neogondolella* stock it is clearly separated into 2 pits.

Pseudofurnishius huddlei VAN DEN BOOGARD & SIMON (1973) is distinguished by the sculpture on the platform. All transitional forms between the two species are known in stratigraphic sequence. The most primitive

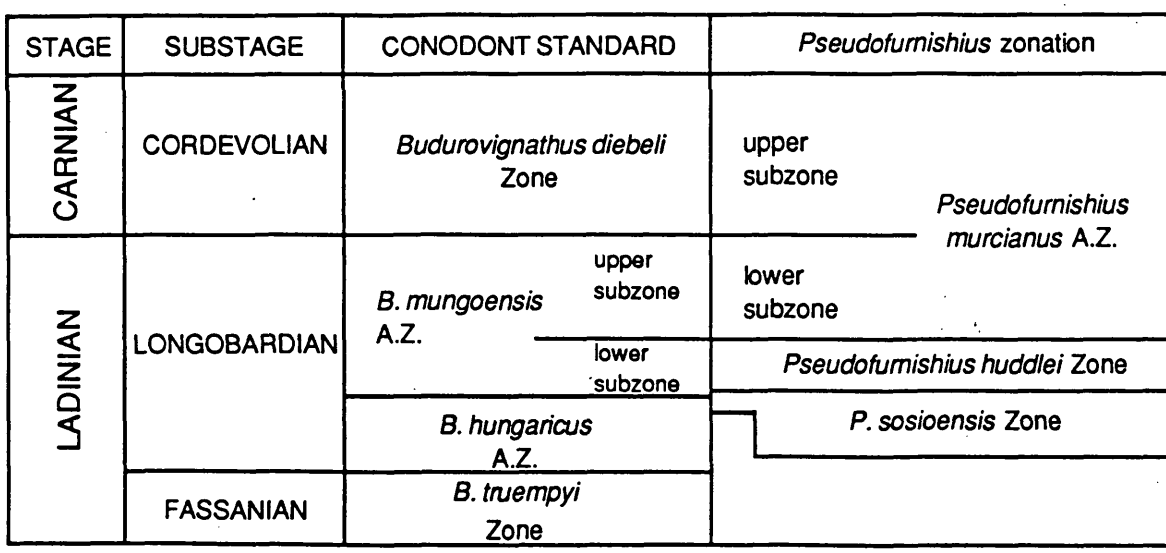

Fig. 2:
Comparisons of the *Pseudofurnishius* zonation with the conodont standard (from CATALANO et al., 1988 b)

representatives of *P. huddlei* have nodes only on one side of the platform, the other side is still smooth, like in *P. sosioensis*. In *P. murcianus* VAN DEN BOOGARD (1966) the platform is strongly sculpturated and the outer platform is strongly reduced or quite missing (mono-platform types).

References

CATALANO, R., DI STEFANO, P. & KOZUR, H. (1988 a): New results in the Permian and Triassic stratigraphy of Western Sicily with special reference to the section at Torrente San Calogero SW of the Pietra di Salomone (Sosio Valley). - Atti 74° Congr. Soc. Geol. It., A, 126–135, Sorrento.

CATALANO, R., DI STEFANO, P., GULLO, M. & KOZUR, H. (1988 b): The stratigraphic and paleogeographic significance of the rich occurrences of *Pseudofurnishius* (Conodonta) in pelagic Late Ladinian-Early Carnian sediments in Western Sicily. - Atti 74°Congr. Soc. Geol. It., A, 114–118, Sorrento.

KOZUR, H. (1972): Die Conodontengattung *Metapolygnathus* Hayashi 1968 und ihr stratigraphischer Wert. - GPM Innsbruck, **2**, 11, 1–37, Innsbruck.

KOZUR, H. (1980): Revision der Conodontenzonierung der Mittel- und Obertrias des tethyalen Faunenreiches. - GPM Innsbruck, **10**, 3–4, 79–172, Innsbruck.

VAN DEN BOOGARD, M. (1966): Post-Carboniferous conodonts from south-eastern Spain. - Proc. k. nederl. Akad. Wetensch., sér. B., **69**, 5, 1–8, Amsterdam.

VAN DEN BOOGARD, M. & SIMON, O. (1973): *Pseudofurnishius* (Conodonta) in the Triassic of Betic Cordilleras, SE Spain. - Scripta Geol., **16**, 1–23, Leiden.

Authors' addresses:
Dr. Maria Gullo, Dipartimento di Geologia e Geodesia, Corso Tuköry 131, I–90134 Palermo, Italy.
Dr. Heinz Kozur, Rézsü u. 83, H-1029 Budapest, Hungary.

received: March 3, 1989 accepted: March 15, 1989

Plate 1

Figs. 1-3: *Pseudofurnishius sosioensis*, holotype, Rep. N°CK/VIII–2, sample 638, greenish-gray clay between greenish-gray to reddish cherty nodular limestone with *Daonella*, near to the boundary between Lower and Middle Longobardian, transition between the *B. hungaricus* and *B. mungoensis* A.-Z.
Fig. 1: inner view, x 160.
Fig. 2: upper view, ca. x 170.
Fig. 3: outer view, ca. x 85.

Figs. 4-5: *Pseudofurnishius sosioensis*, x 160, Rep. N° CK/VIII–4, sample 638 (see above).
Fig. 4: outer side.
Fig. 5: inner side.

Figs. 6-7: *Pseudofurnishius sosioensis*, sample 638 (see above), Rep. N°CK/VIII–6.
Fig. 6: lower view, ca. x 310.
Fig. 7: inner side, x 170.

Fig. 8: *Pseudofurnishius huddlei* VAN DEN BOOGARD & SIMON, upper view, primitive form, one side of platform is still unsculpturated as in *P. sosioensis*, x 320, Rep. N°CK/II–35, sample 510, basal Middle Longobardian, lower *B. mungoensis* A.-Z., basal *P. huddlei* Zone.

Fig. 9: *Pseudofurnishius murcianus murcianus* VAN DEN BOOGARD, upper view, juvenile specimen, x 160, Rep. N°CK/II–41, sample 555, Middle Longobardian red clay between red nodular cherty limestones. Middle part of *B. mungoensis* A.-Z., lower subzone of *P. murcianus* A.-Z.

Fig. 10: *Pseudofurnishius murcianus murcianus* VAN DEN BOOGARD, x 160, Rep. N° CK/II–30, sample 555 (see above), inner side.

Fig. 11: *Pseudofurnishius murcianus* VAN DEN BOOGARD, primitive form (bi-platform type), Rep. N°CK/II–33, sample 555 (see above).

All figured specimens come from the Torrente San Calogero section, SW of the Pietra di Salomone (Sosio Valley, western Sicily).

Plate 1