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ON THE OXFORDIAN GENUS *SUBDISCOSPHINCTES* MALINOWSKA,
1972, AND SUBGENUS *S.* (*AUREIMONTANITES*) NOV.
(PERISPHINCTIDAE, AMMONOIDEA)

Abstract. — Middle Oxfordian forms resembling *Lithacoceras* Hyatt, 1900, are placed in *Subdiscosphinctes* Malinowska, 1972. The type species of the latter, *Perisosphinctes kreutzi* Siem., does not represent immature macroconch but rather microconch. Therefore, *Subdiscosphinctes* (*Subdiscosphinctes*) Malinowska is interpreted as subgenus comprising microconchs only, and a new subgenus, (*Aureimontanites*) nov. is proposed for macroconchs.

INTRODUCTION

Certain Oxfordian-Kimmeridgian perisphinctids closely resemble Lower Tithonian genus *Lithacoceras* Hyatt, 1900. There were numerous attempts to extend the downward range of this genus through allocation of some Oxfordian-Kimmeridgian macroconchs characterized by similar sculpture or through allocation of some other genera as subgenera in this genus. Thus the following genera of Oxfordian-Kimmeridgian perisphinctids were assigned to *Lithacoceras*: *Discosphinctes* (Schindewolf, 1925, p. 329), *Progeronia* (Geyer, 1961, p. 26), and *Larcheria* and *Platysphinctes* (Enay, 1966, p. 525). More recently, a new subgenus of *Lithacoceras*, *L.* (*Subdiscosphinctes*), was proposed by Malinowska (1972, p. 217) for certain giant Oxfordian perisphinctids resembling *Discosphinctes* Dacqué 1914.

However, a number of authors questioned any affinity of the Oxfordian-Kimmeridgian ammonites to the Tithonian *Lithacoceras* (Zeiss, 1968; Bantz, 1970). In that situation, a generic status of *Larcheria* and of other genera was reestablished but there remains a problem of Oxfordian-Kimmeridgian homeomorphs of *Lithacoceras*. *Discosphinctes* appears to be a troublesome African genus and, according to J. H. Callomon and A. Wierzbowski, until more and better African material is described it would be better not to use this taxon in Europe. Hence, "Malinowska's

Subdiscosphinctes seems the only existing alternative" (Callomon, pers. inf.).

The Oxfordian homeomorphs of *Lithacoceras* comprise micro- and macroconchs (Brochwicz-Lewiński, 1972). Malinowska selected *Perisphinctes kreutzii* Siemiradzki, 1891, as the type species of her subgenus, interpreting the type specimen as an incomplete macroconch and confining the diagnosis to macroconchs only. However, it should be noted that the type specimen of *P. kreutzii* Siem. (Pl. XXI, Fig. 1) is regarded as an incomplete microconch by Enay (1966), Brochwicz-Lewiński (1972) and Callomon (pers. inf.). The revision of *P. kreutzii* Siem., based on both original specimens of Siemiradzki's (1891) collection and several other Polish specimens (Brochwicz-Lewiński, 1972) showed that the type specimen most probably belongs to a group of isocostate microconchs attaining up to 140—180 mm in diameter. The type specimen (Pl. XXI, Fig. 1) has an apertural part broken-off, but its body chamber a half of whorl long, approximated sutures, and some modifications of ribbing suggest that it is almost fully or fully grown. One of paratypes of this species (specimen A I-2/12, GEOL.MUS. PAN, Cracow; Pl. XXII, Fig. 1) appears to be a macroconch (Brochwicz-Lewiński, 1972, p. 480, Pl. 4). That macroconch as well as three others described by the present author (Brochwicz-Lewiński, *l.c.*, Pls 1—3; see Pl. XXII, Fig. 2) differ from those allocated in this species by Malinowska (1972; see Pl. XXII, Fig. 3), but it may well mean that both Malinowska and the present author have underestimated the variability of the macroconchs of this species. But there remains a problem whether or not all these macroconchs actually belong to this species. The previous studies by the author (Brochwicz-Lewiński, 1972) showed that the group of *kreutzii-richei* microconchs most probably gave rise to the microconchs of "*Discosphinctes*" *cracoviensis* group. The former are isocostate, with biplicate and occasional simple ribs, and are characterized by steeply rising rib curve, whereas the latter are variocostate, with biplicate ribbing modified on outer whorls into tri- and even quadriplicate, and are characterized by rib-curve initially equally steep or even steeper than that of the former group and gently convex thereafter. As it was stated before (Brochwicz-Lewiński, 1972, p. 492), and according to H. Tintant (pers. inf.), on the basis of general dimensions, style of sculpture and size attained by the representatives of "*Discosphinctes*" *cracoviensis* group it may be assumed that their dimorphic counterparts were about 300 mm in size and were characterized by sculpture and dimensions very close (if not identical) to those of presumed macroconchs of the *kreutzii-richei* microconchs. Thus, it follows that the macroconch group may comprise sexual counterparts of different species of the *kreutzii-richei* group and even those of their derivatives, "*Discosphinctes*" *cracoviensis* group. Of course it is highly probable that the macroconchs identified as *kreutzii* (Brochwicz-Lewiński, 1972; Malinowska, 1972) actually represent this

species, but any unequivocal answer requires detailed analysis of inner whorls (which is hardly possible on the material available at present) and much more better-preserved and carefully collected material.

Therefore, in case of Oxfordian homeomorphs of *Lithacoceras*, it seems justified and advantageous:

1) to propose the generic rank for *Subdiscosphinctes* Malinowska (1972). The genus *Subdiscosphinctes* should comprise all Middle Oxfordian (Plicatilis-Bifurcatus zones) micro- and macroconchs which are the homeomorphs of Tithonian genus *Lithacoceras* Hyatt, 1900. So interpreted, *Subdiscosphinctes* would comprise the microconchs of *kreutzii-richei* and *cracoviensis* groups and their macroconchs, that is, three groups or subgenera.

2) The type specimen of *Perisphinctes kreutzii* Siemiradzki most probably does not represent an immature macroconch but rather an incomplete microconch. Thus, the subgenus *Subdiscosphinctes* (*Subdiscosphinctes*) Malinowska should be confined to isocostate microconchs of the *kreutzii-richei* group. The troublesome macroconchs previously placed in the type species and in *Lithacoceras richei* (de Riaz) (Brochwicz-Lewiński, 1972; Malinowska, 1972) should be transferred to the macroconch subgenus.

3) In view of the existing confusion in the interpretation of the taxon *Discosphinctes*, the variocostate microconchs of the *cracoviensis* group, derivatives of the isocostate *Subdiscosphinctes kreutzii-richei* microconchs, previously placed in this taxon, should be allocated in a separate group of the genus *Subdiscosphinctes* (possibly of the subgeneric rank).

4) The material available appears insufficient for any equivocal identification of dimorphic pairs. Therefore, macroconchs of the two above groups should be treated as representatives of a separate subgenus of *Subdiscosphinctes*. *Lithacoceras* (*Subdiscosphinctes*) *boreale* Malinowska (1972, p. 219, Pls 25—26, Text-figs 25—26) appears to be the only convenient type species of such subgenus.

Representatives of this fauna are described separately (Brochwicz-Lewiński, 1974 MS) with the exception of *S. (A.) carioui* sp.n. Diagnoses of the above taxa are given below.

SYSTEMATIC PART

Family *Perisphinctidae* Steinmann, 1890 Genus *Subdiscosphinctes* Malinowska, 1972

Type species: Perisphinctes kreutzii Siemiradzki (1891) refigured here in Pl. XXI, Fig. 1.

Redescription of the holotype. — Specimen 100 mm in size, septate to 75 mm; H/D — 0.36, T/D — 0.24, U/D — 0.40. Whorls high, compressed, flat-sided, subrectangular; umbilical and ventral margins rounded; um-

bilical area partly covered with ribs. Ribs fine, sharp, closely spaced, markedly prorsiradiate, bifurcating somewhat above the mid-height, close to ventral margin. Occasionally some simple and intercalary ribs occur. On two-thirds of outer whorl secondaries begin to sweep forward. Constrictions common, shallow. Apertural part is broken-off but approximation of sutures, body chamber a half of whorl long, and a change in ribbing marked along the body chamber suggest that the specimen is almost fully or fully grown.

Emended diagnosis. — Dimorphic. Microconchs 100—180 mm in diameter, involute to somewhat evolute. Inner whorls with fine, sharp, biplicate ribbing, which continues up to the peristome or modifies into tri- or quadriplicate ribbing. Body chamber 1/2 to 3/4 of whorl long. Peristome with lateral lappets. Finely constricted or not.

Macroconchs about 300 mm in diameter or larger. Inner whorls involute to slightly evolute, outer whorls evolute. Inner whorls with sharp biplicate ribbing which modifies on outer whorls to produce more widely spaced blunt primaries, and three to eight secondaries to every primary rib. Body chamber about 3/4 of whorl long. Peristome simple, oblique, somewhat flexuous. Finely constricted or not.

Remarks. — This genus, interpreted as above, comprises subgenus *S.* (*Subdiscosphinctes*) Malinowska, *S.* (*Aureimontanites*) subgen., nov., and the *S. cracoviensis* group.

Stratigraphic and geographic range. — The stratigraphic and geographic ranges are difficult to precise because of several controversies concerning this ammonite fauna. Undoubtful *Subdiscosphinctes* Malinowska is known from Poland, SE France, Switzerland, F.R.G., Rumania (Barbulescu, 1974), Moldavia (Romanov & Danitsch, 1971) and northern Caucasus in the USSR, and possibly from Spain and Portugal, from the strata of the Plicatilis Zone, Antecedens Subzone — Bifurcatus Zone.

Subgenus *Subdiscosphinctes* (*Subdiscosphinctes*) Malinowska 1972

Type species: *Perisphinctes kreutzi* Siemiradzki (1891).

Diagnosis. — Microconchs up to 140—180 mm in size, involute to somewhat evolute, isocostate up to the peristome; ribbing fine, biplicate and single; peristome with lappets.

Remarks. — The subgenus *S.* (*Subdiscosphinctes*) so defined comprises isocostate microconchs referable to species *S.* (*S.*) *kreutzi* (Siem.) *S.* (*S.*) *richei* (de Riaz) and their allies. The microconchs of the "*Discosphinctes*" *cracoviensis* group differ from them in outermost whorls ornamented with generally thicker, tri- and quadriplicate ribs and in deeper, better developed constrictions, but some transitional forms are known.

The subgenus *S.* (*Subdiscosphinctes*) Malinowska differs from *Dichotomosphinctes* in markedly finer ribbing and more involute and compressed whorls.

Stratigraphic and geographic range. — As above.

Subdiscosphinctes cracoviensis group

This group is proposed for variocostate microconchs of the species *Perisphinctes cracoviensis* Siemiradzki (1891) and its allies, previously placed in the genus or subgenus *Discosphinctes* Dacqué, 1914 (compare Brochwicz-Lewiński, 1972). The microconchs most probably evolved from the microconchs of *kreutzi-richei* group and do occur in the strata of the uppermost Transversarium-Bifurcatus zones in Europe, whereas the type species of *Discosphinctes*, *Perisphinctes arussiorum* Dacqué, 1905, is based on the specimen of uncertain ancestry and age, and inaccurately drawn (A. Zeiss, pers. inf., Wierzbowski 1976). Therefore, as it was suggested by J. H. Callomon, R. Gygi, J. Kutek and A. Wierzbowski (pers. inf.), this taxon should not be used in Europe until more a better preserved African material is described. At present the name *Discosphinctes* is used for various morphotypes varying in age from the Cordatum Zone of the Lower Oxfordian (Lange, 1973) to Upper Oxfordian (Loreau & Tintant, 1968, Cruz-Sanjulian *et al.*, 1973) and even Kimmeridgian.

The *Subdiscosphinctes cracoviensis* group is to comprise involute to slightly evolute, variocostate microconchs, discoidal in shape, and attaining 120—180 mm in size; maximum thickness of whorls close to the umbilicus. Ribs densely spaced, prorsiradiate, bifurcate on early whorls, tri- to quadriplicate later, and finally even fasciculate. Rib-curve initially steep, later gently sloping. Constrictions common, moderately deep.

Differences in respect to the *S.* (*Subdiscosphinctes*) Malinowska as discussed above.

Geographic and stratigraphic range. — Known from Poland, and possibly from France and Sicily, from the strata of the uppermost Transversarium-Bifurcatus zones.

Subgenus *Subdiscosphinctes* (*Aureimontanites*) nov.

Type species: *Lithacoceras* (*Subdiscosphinctes*) *boreale* Malinowska (1972a, p. 219, Pls 25—26, Text-figs 25—26).

Description of the holotype as given by Malinowska (1972, p. 219).

Derivation of the name: From Golden Mountain, Złota Góra, hill at Zawodzie in Częstochowa, which is the type locality of the type species.

Diagnosis. — Macroconchs, initially involute to slightly evolute, markedly evolute later, up to 380 mm in size or more. Inner whorls with fine,

sharp biplicate ribbing, which modifies on outer whorls to produce much coarser and more loosely spaced or even widely spaced blunt primaries, and three to eight secondaries for every primary rib. Body chamber about 3/4 of whorl long. On the final body chamber there is a tendency to obliteration of ribbing, and particularly of secondary ribs. Peristome simple, oblique, somewhat flexuous. Sometimes constricted.

Remarks. — This subgenus comprises presumable sexual counterparts of *Subdiscosphinctes* (*Subdiscosphinctes*) Malinowska and *S. cracoviensis* group.

Representatives of this subgenus seem to be close to some representatives of *Arisphinctes*, e.g. *Perisphinctes* (*Arisphinctes*) *pickeringius* (Yong & Bird), differing in tendency to obliteration of sculpture of the outermost whorl and not to the development of gerontic (*Perisphinctes*-like) "degenerated" ribs and in the sharper and more crowded ribs on inner whorls.

Differences in respect to *Liosphinctes* as discussed previously (Brochwicz-Lewiński, 1972).

Stratigraphic and geographic range. — Poland, southern F.R.G., and recently found in France (R. Enay and H. Tintant, pers.inf.) and possibly Switzerland (Gygi, pers.inf.), in the strata of the Plicatilis Zone, Antecedens Subzone — Bifurcatus Zone.

Subdiscosphinctes (*Aureimontanites*) *carioui* sp.n.

(Pl. XXIII, Figs. 1—2)

Holotype: Specimen no. Kl. 16/2/61; Pl. XXXIII, Fig. 1.

Paratype: Specimen no. Kl. 16/2/62. Pl. XXIII, Fig. 2.

Type horizon: The Plicatilis Zone, lower part of Antecedens Subzone.

Type locality: Large quarry by the road from Żarki to Zawiercie at Jaworznik, Polish Jura Chain.

Derivation of the name: Named in honour of Dr. E. Cariou of University of Poitiers, France, student of the Jurassic.

Material. — Two specimens.

Dimensions:

Holotype: D — 190 mm, septate to 150 mm, H/D — 0.27, U/D — 0.50, D₁ — 151 mm, H/D — 0.29, U/D — 0.54; number of ribs per diameter: 50/190, 54/160, 57/150, 64/120, 69/105, ca. 69/80, ca. 67/66.

Paratype: D — 140 mm, septate to 80 mm, H/D — 0.27, U/D — 0.49; D₁ — 105 mm, H/D — 0.33, U/D — 0.47; number of ribs per diameter — 69/135, 70/120, 69/105, ca. 69/80, ca. 62/54.

Description. — Macroconch initially somewhat involute, evolute later, with compressed whorls. Ribs with initial twist, markedly prorsiradiate and fine on early whorls, more prominent and tripartite later, presumably fading out on outer whorl. Constrictions shallow, occurring throughout the development. Body chamber over a half of whorl long.

Remarks. — Sculpture and outline of outer whorl somewhat resembling the genus *Progeronia*, whereas inner whorls typical of the genus *Subdiscosphinctes*. The two specimens were recorded from the lower part of the Antecedens Subzone at Jaworzniak and appear to be the earliest *Subdiscosphinctes* macroconchs hitherto recorded.

Occurrence. — As the type locality.

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REFERENCES

- BANTZ, H. U. 1970. Der Fossilinhalt des Treuchtlinger Marmors (Mittleres Unter-Kimmeridge der Südlichen Frankenalb). — *Erlanger Geol. Abh.*, H. 82, 1—86, Erlangen.
- BĂRBULESCU, A. 1974. Stratigrafia jurasicului din vestul Dobrogei centrale. — Editura Acad. Republ. Soc. Romania, 1—173, Bucuresti.
- BROCHWICZ-LEWIŃSKI, W. 1972. Middle Oxfordian representatives of the genera *Lithacoceras* Hyatt, 1900, and *Liosphinctes* Buckman, 1925, from the Polish Jura Chain. — *Acta Geol. Pol.*, 22, 3, 473—497, Warszawa.
- 1974 MS. The Middle Oxfordian between Częstochowa and Żarki, Polish Jura Chain: Stratigraphy and ammonite fauna. — D. Sc. thesis, Warsaw University Arch. (in preparation to print).
- CRUZ-SANJULIAN, J., OLORIZ, F. & SEQUEIROS L. 1973. El Jurásico Superior entre el Torcal de Antequera y Canete la Real (Cordilleras Béticas, Region Occidental). — *Cuad. Geol.*, 4, 15—25, Granada.
- ENAY, R. 1966. L'Oxfordien dans la moitié sud du Jura français. — *Nouv. Arch. Mus. Hist. Natur. Lyon*, 8, 1—624, Lyon.
- GEYER, O. F. 1961. Monographie der Perisphinctidae des unteren Unterkimmeridgium (Weisser Jura γ , Badenerschichten) im süddeutschen Jura. — *Palaeontographica*, Abt. A, 117, 1—157, Stuttgart.
- LANGE, W. D. 1973. Ammoniten und Ostreen (Biostratigraphie, Ökologie, Zoogeographie) des Callovium, Oxfordium-Grenzbereichs im Wiehengebirge. — *Münster Forsch. Geol. Paläont.*, 17, 1—209, Münster (Westf.).
- LOREAU, J. P. & TINTANT, H. 1968. Le calcaire de Tonnerre et les formations adjacentes du Jurassique supérieur de l'Yonne. Observations stratigraphiques et paléontologiques. — *Bull. Soc. Géol. Fr.*, 7 ser., 16, Paris.

- MALINOWSKA, L. 1972. The Middle Oxfordian Perisphinctidae of Zawodzie near Częstochowa (Poland). — *Acta Palaeont. Pol.*, **17**, 2, 167—242, Warszawa.
- ROMANOV, L. F. & DANITSCH, M. M. 1971 Molliuski i foraminifery Mezozoja Dnietrovsko-Prutського Mieźdurieczja. — Izd. Akad. Nauk Moldavskoj SSR., 3—216, Kishiniov.
- SCHINDEWOLF, O. H. 1925. Entwurf einer Systematik der Perisphincten. — *N. Jb. Miner. usw.*, Abt. 8, Bd. 52, 309—340, Stuttgart.
- SIEMIRADZKI, J. 1891. Fossil fauna of Oxfordian and Kimmeridgian strata of the Cracow region and adjoining part of the Polish kingdom. Pt. I. Cephalopods (in Polish). — *Pam. Wydz. Mat.-Przyr. Akad. Um.*, **18**, 1—92, Cracow.
- WIERZBOWSKI, A. 1976. Oxfordian ammonites of Pinar del Rio province, western Cuba. — (in preparation to print in) *Acta Geol. Pol.*, **26**, Warszawa.
- ZEISS, A. 1968. Untersuchungen zur Paläontologie der Cephalopoden des Unter-Tithon des Südlichen Frankenalb. — *Abh. Bayer. Akad. Wiss., Math.-Naturw. Kl., N. F.*, H. **132**, München.

WOJCIECH BROCHWICZ-LEWIŃSKI

UWAGI O RODZAJU *SUBDISCOSPHINCTES* MALINOWSKA, 1972,
I PODRODZAJU *AUREIMONTANITES* NOV. (PERISPHINCTIDAE, AMMONOIDEA)
Z OKSFORDU

Streszczenie

Środkowo-oksfordzkie perysfinkty przypominające tytoński rodzaj *Lithacoceras* Hyatt, 1900, zaliczono do rodzaju *Subdiscosphinctes* Malinowska, 1972. Typowy okaz tego ostatniego rodzaju, *Perisphinctes kreutzii* Siemiradzki, nie jest niedojrzałą makrokonchą jak to uprzednio zakładała Malinowska (1972), ale raczej mikrokonchą (Enay, 1966; Brochwicz-Lewiński, 1972; Callomon, inf. list.). Toteż zaproponowano nową diagnozę podrodzaju *Subdiscosphinctes* (*Subdiscosphinctes*) Malinowska, tak iż obejmuje on wyłącznie mikrokonchy z gatunku *P. kreutzii* Siemiradzki i pokrewnych. Dla makrokonch uprzednio zaliczonych do *Lithacoceras* (*Subdiscosphinctes*) Malinowska (Malinowska, 1972) lub do *Lithacoceras* (Brochwicz-Lewiński, 1972) zaproponowano osobny podrodzaj, *S. (Aureimontanites)* subgen. nov., z *Lithacoceras* (*Subdiscosphinctes*) *boreale* Malinowska jako gatunkiem typowym. Ponadto wyróżniono grupę *Subdiscosphinctes cracoviensis*, obejmującą szereg gatunków z poziomu *Bifurcatus*, a wywodzących się od *Perisphinctes kreutzii* Siem. i gatunków pokrewnych.

ВОЙЦЕХ БРОХВИЧ-ЛЕВИНЬСКИ

ПРИМЕЧАНИЯ НА ТЕМУ ОКСФОРДСКОГО РОДА *SUBDISCOSPHINCTES*
MALINOWSKA, 1972 И ПОДРОДА *AUREIMONTANITES* NOV.
(PERISPHINCTIDAE, AMMONOIDEA)

Резюме

Среднеоксфордские перисфинкты, напоминающие титонский род *Lithacoceras* Hyatt, 1900, отнесены к роду *Subdiscosphinctes* Malinowska, 1972. Типичный представитель этого рода — *Perisphinctes kreutzi* Siemiradzki не является незрелым макроконхом, как предполагала ранее Малиновска (1972), но представляет, вероятнее всего, микроконх (Эней, 1966; Брохвич-Левиньски, 1972; Калломон, частное сообщение). Предлагается, таким образом, новый диагноз подрода *Subdiscosphinctes* (*Subdiscosphinctes*) Malinowska, согласно которому этот подрод включает исключительно микроконхи вида *P. kreutzi* Siemiradzki и родственных видов. Макроконхи, отнесенные ранее к *Lithacoceras* (*Subdiscosphinctes*) Malinowska (Малиновска, 1972) или к *Lithacoceras* (Брохвич-Левиньски, 1972), предлагается зачислить к отдельному подроду, *S. (Aureimontanites)* subgen. nov., типичным видом которого является *Lithacoceras* (*Subdiscosphinctes*) *boreale* Malinowska. Кроме того, предлагается выделять группу *Subdiscosphinctes cracoviensis*, охватывающую ряд видов зоны *Bifurcatus*, производных от *Perisphinctes kreutzi* Siem. и родственных видов.

EXPLANATION OF PLATES

Dimension and descriptions of specimens shown in Pl. XXI and in Pl. XXII, Figs 1—2, are given in Brochwicz-Lewiński, 1972.

Plate XXI

- Fig. 1. *Perisphinctes kreutzi* Siemiradzki, holotype; GEOL. MUS. PAN Cracow, A-I-2/9; nat. size.
Fig. 2. *Lithacoceras* (*Lithacoceras*) *kreutzi* (sensu Brochwicz-Lewiński, 1972); specimen Br 10/020, Mirów near Częstochowa, the Plicatilis Zone, upper Antecedens Subzone; inner whorls of macroconch; nat. size.

Plate XXII

- Fig. 1. *Perisphinctes kreutzii* Siemiradzki, one of paratypes; specimen GEOL. MUS. PAN Cracow, A I-2/12; $\times 0.33$.
- Fig. 2. *Lithacoceras (Lithacoceras) kreutzii* (sensu Brochwicz-Lewiński, 1972); specimen Br 02/204, Zawodzie at Częstochowa, Transversarium or lower Bifurcatus Zone; $\times 0.26$.
- Fig. 3. *Lithacoceras (Subdiscosphinctes) kreutzii* (sensu Malinowska, 1972); specimen Nr 01/009, Zawodzie at Częstochowa, Transversarium or lower Bifurcatus Zone; $D_{\max} - 362$ mm, $H/D - 0.26$, $T/D - 0.22$, $U/D - 0.51$; $D - 212$ mm, $H/D - 0.34$, $T/D - 0.28$, $U/D - 0.45$; $\times 0.50$.

Plate XXXIII

Subdiscosphinctes (Aureimontanites) carioui sp.n.

- Fig. 1. Holotype; specimen Kl. 16/2/61, site near Zawiercie at Jaworzniak, Plicatilis Zone.
- Fig. 2. Paratype; specimen Kl. 16/2/62, the same locality and age.





