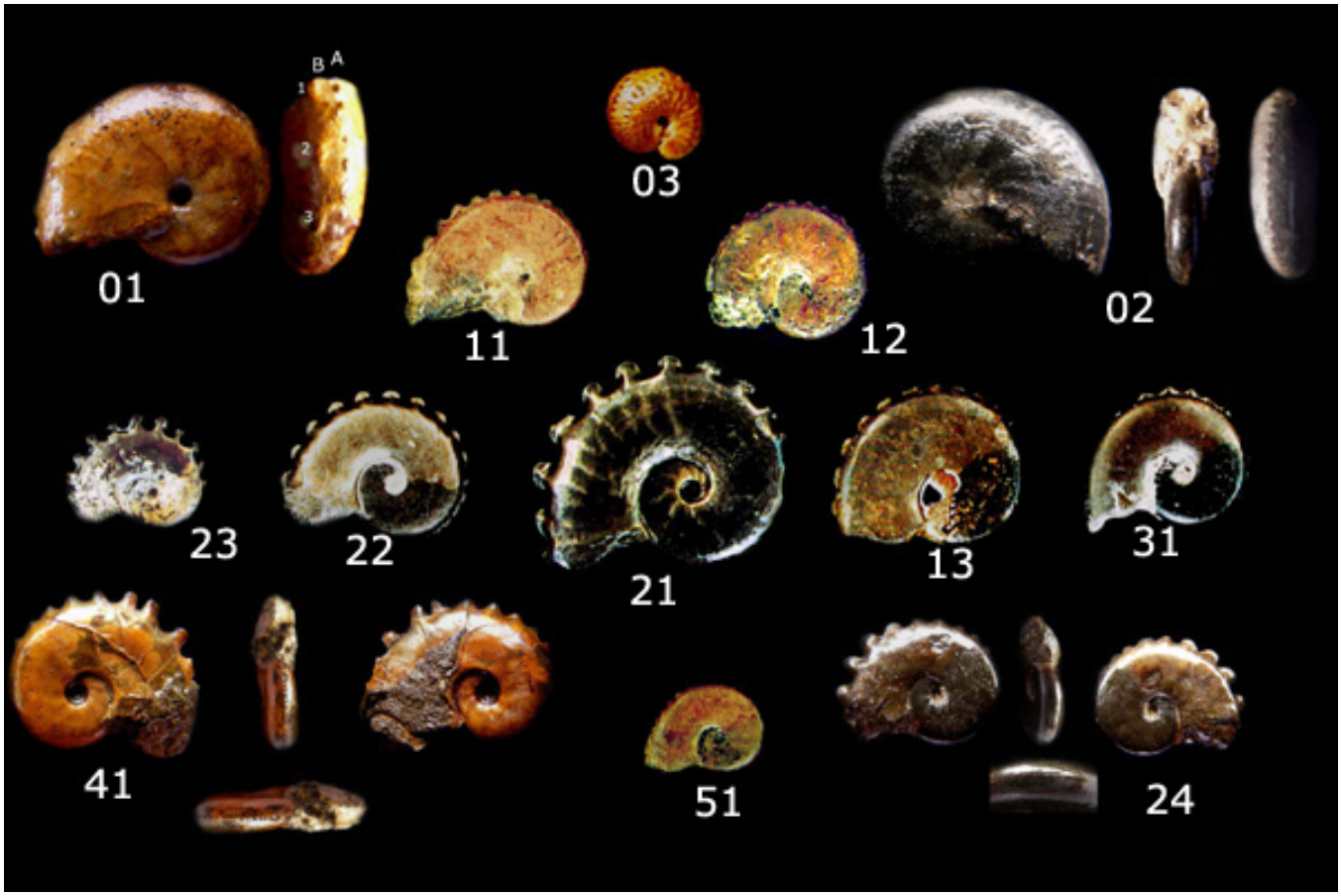
Sudden close up of suture line as a result of an injury.

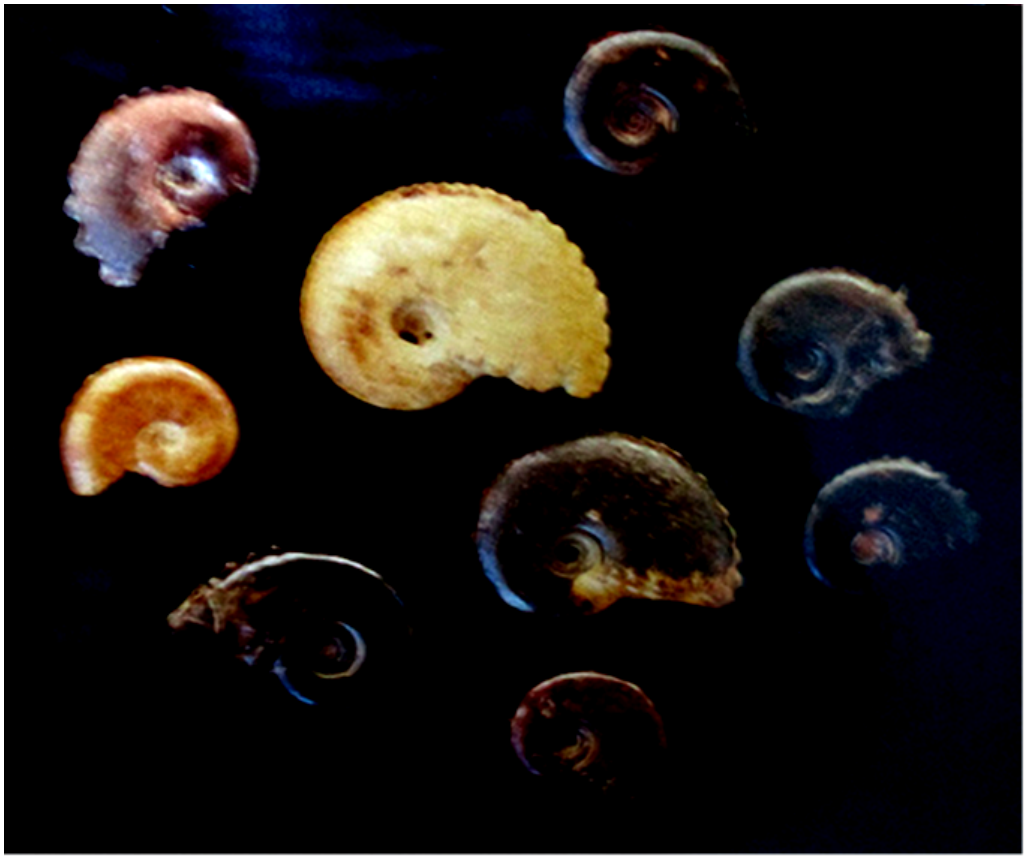
This is the only example I ever found (out of mor than 20'000 findings).
Liesberg-links: Normal / close up (x)/ normal distance of suture line



"Who is who" in Rengeri Marl (not exactly to scale)

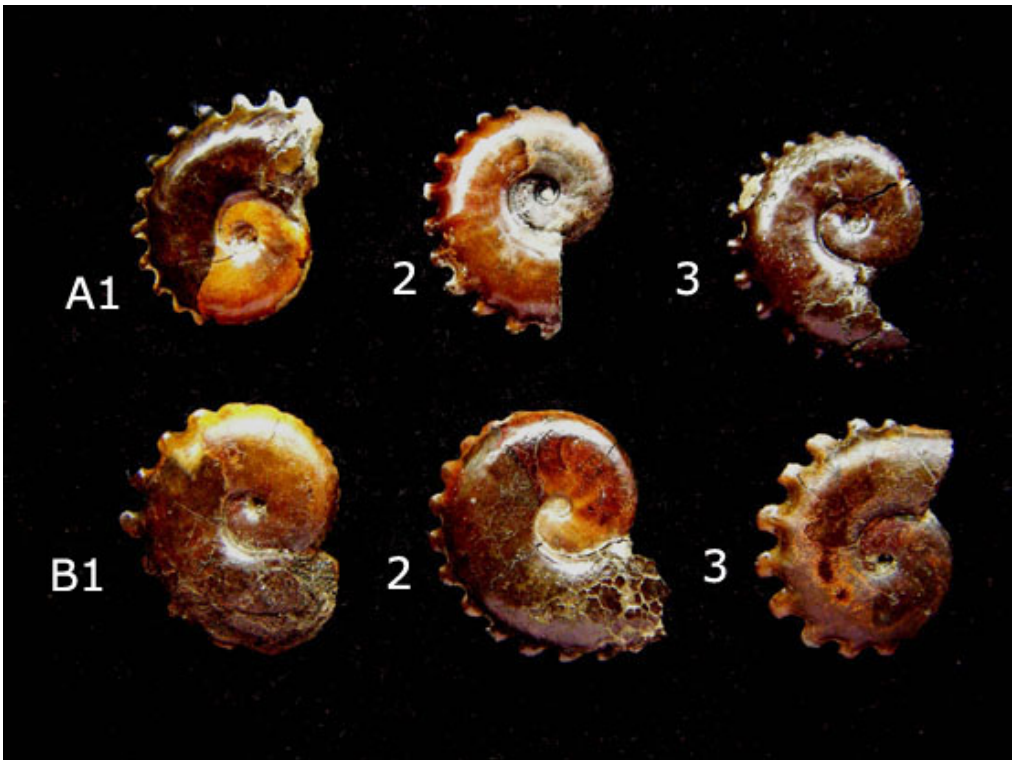
So who is who ? No. 1 and 2 look like Taramelliceras richei which would get the typical spines/nodules left/right side of venter on the body chamber), while 3 is a Taramelliceras / Flexispinites . 21 –24 must be Creniceras renggeri (nr.23 is a micro-Conch, see also Pic R18 on page before.), a similar type like no.11-13 has been published by Ch.Jaeggi (Bern/Schweiz) as Creniceras piae n.sp. (2010), Nr.41 might be a Coryceras, and for no.51 (without a crenulated venter it would be a Scaphidodites) because of the nearly invisible teeth I don't have any idea, and no.31 would be a Creniceras crenatum, if it would be out of much younger layers.

As I have given my collection of fossils of the Renggeri Marl to the Museum of Natural History Basel / Switzerland (several thousand specimens, because species by source, handed over to Dr.R.A.Gygi) and today I am living in Singapore, most of the shown photos are based on a remaining stock. The overview "Who is who" is a reproduction of pictures out of my booklet "The Renggeri Marl and its fossils" (1998).



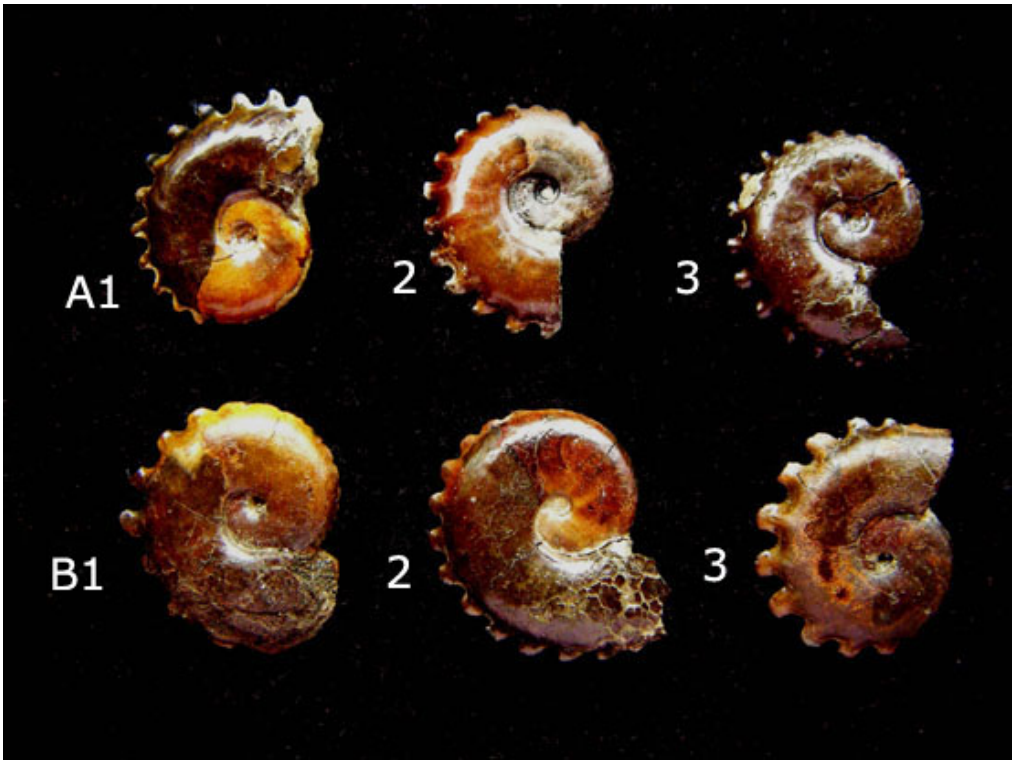
Coryceras sp

Unfortunately this picture is not sharp. Nevertheless characteristics of Coryceras is very well to be seen, llke the small crenulation and, compared with Creniceras renggeri, the wider umbilicus. Possibly the shell at top left is a Cr. Renggeri



Pict .81 Coryceras / Creniceras

The findings of row A might be genus Coryceras, row B might be Creniceras (notice the difference of umbilicus region within row A and B). Whether B2 is still a Creniceras renggeri (much smaller but more teeth) for me is difficult to decide.



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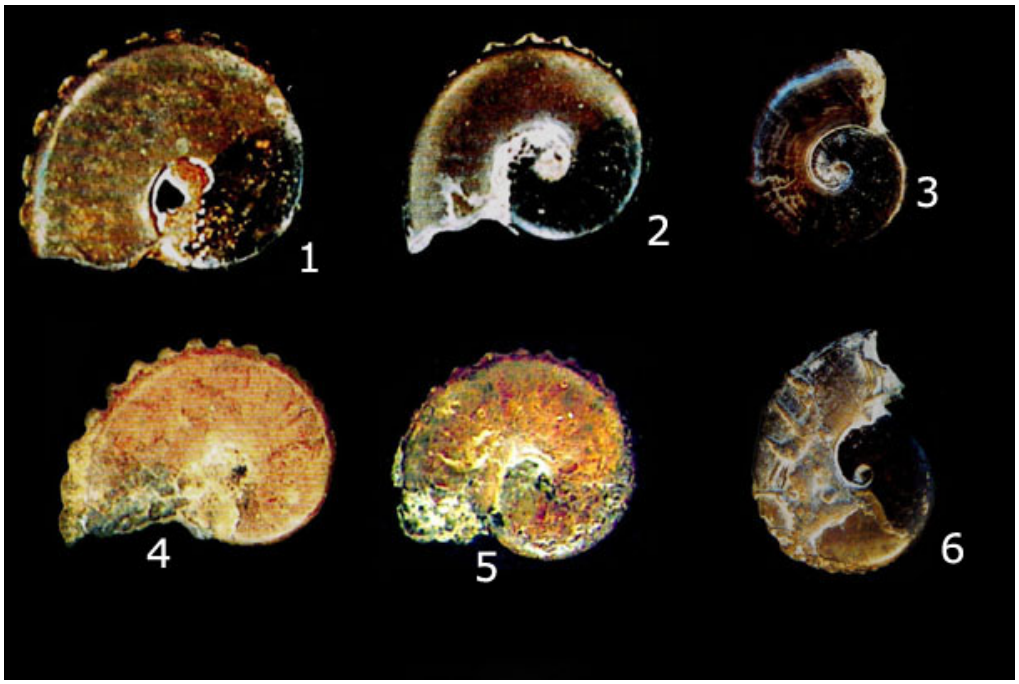
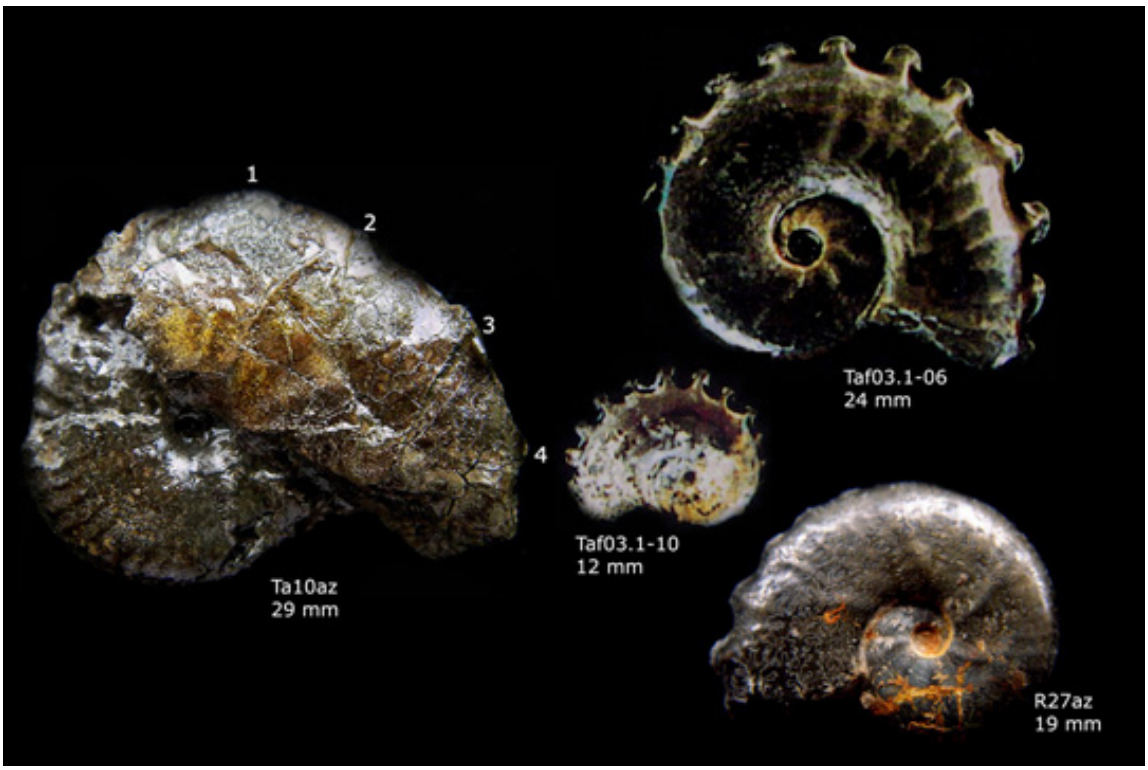


"Variants" of Creniceras renggeri or different species ?
Rengg_Oth01c

1-Coryceras jeanneti (?) n.sp. (17mm), 2- Coryceras crenatum (?) (15mm) 3- Crenicera renggeri hurt (?) (possibly Scaphitodites scaphitoides) (?) (15mm) 4- Creniceras (?) piae (17mm) (such a type was published by CH.Jaeggi/Schweiz in 2010) 5- Coryceras jeanneti (?)n.sp. (15mm), 6- Creniceras renggeri var.B (17mm), possibly hurt.



My proposed dimorph pair of Creniceras renggeri.
For years they have been believed believed dimorph pair Creniceras renggeri and Taramelliceras richei. But what about the renggerI to the right ?

It is difficult to understand, that the Creniceras renggeri (right/top) should be the micro-conch of the Taramelliceras richei (bottom/left). If the renggeri at bottom/right would have a body chamber it would be approx. 33mm, that means even about 10% bigger than the shown T.richei (meaning: micro-conch is bigger then macro-conch ?)
(How to solve that problem: "I have doubts that R27 is a renggeri", that means just don't compare).

One easily can see that the two Creniceras renggeri on the right hand side hardly can be interpreted as the micro-conch of Taramelliceras richei shown on the left side, which has four (1-4) nodules left and right the crenulated venter on the body chamber.

Curious remark beside all:
Palframan says that the size of the phragmocon of Creniceras renggeri is 5-13 mm, for Taramelliceras richei 14-28 mm (p.297, text-fig. 6)(Attention: Information as from/to in mm must be different ontogenetic stage). But on plate 50-picture 5 he shows an example (OUM Oxford University Museum 25246) with a diameter of 18 mm, which he called an extreme form or a giant adult male (=giant adult micro conch). If this would be a logical conclusion, then besides micro- and Macro-conches there must be additional "dwarf adult Macro-conch" (which would be a contradiction by itself. Better C.renggeri micro-conch: size 5-18 mm incl. boddy chamber).

Postscript to species "renggeri"

The following remarks should only be valid for Creniceras renggeri (and not for the other, similar looking examples and specially taken into consideration the important papers of H.Makowski (Palaeontologica Polonica Nr.12 – 1962), D.F.B.Palframan (Oxford University Museum in Palaeontology, Vol.9, Part 2, 1966) und W.Brochwicz-Lewinski (Palaeontologica Polonica 1976 p.119/120) . These publications can be seen at Internet.

Here as a summary the most important facts of these mentioned publications:

H.Makowski:
P.9: Within mesozoic ammonites the phenomena of closing up of the suture lines of adult shells sometime is very obvious.
This fact was not specially taken into considerations, as mesozoic ammonites have a variety of other morphological details, specially the sculpture or the aperture.
p.10: This is very surprising, as the body chamber (or at least the base of it with suture line) is much more often well preserved than the aperture of the body chamber, which attracted the attentention of most of the palaeontologists.
Close up of the sutur line is interpreted as grown up stage. This fact unfortunately is only insufficient taken into consideration..
p.28: There was no conclusion possible out of the sutur line (-> which totally corresponds to the extensive work of O.H.Schindewolff).

D.F.B.Palframan:
p.297: Text-Fig.6 Histogram for maximum chambered diameter of Taramelliceras richei and Creniceras renggeri (**C.renggeri = 5-13 mm, T.richei = 14 – 28 mm)**
p.301: The most remarkable change is the **development of ventral and ventro-lateral spines (T.richei)**

p.304: Example OUM J25246 with a chambered diameter of 17 mm obviously is a very large, grown up Creniceras renggeri. And example on Plate 50 / fig. 5 is explained as a "**giant adult male".(micro)**
p.309: **The biggest adult Creniceras renggeri is not as big as the smallest adult Taramellceras richei** (Contradiction to p.297 text-fig 6).

W.Brochwicz-Lewinski: Palaeontologica Polonica 1976 p.119/120
Therefore the conclusion is that the comparisons of **innermost revolution** of an ammonite shells is **not reliable as identification of dimorph pairs**. Makowski shortly (1971, p.337) has claimed similar restrictions for Perisphinctidae and other well-known groups of the family Oppeliidae.

R.A.Gygi: -Revision der Ammonitengattung *Gregoryceras* (Aspidoceratidae) aus dem Oxfordian (Oberer Jura) der Nordschweiz und von Sueddeutschland –ECLOGAE, Vol.70, Nr.2, 1977

S.508 "Nach der uebereinstimmenden Meinung von **Makowski** (1963) und **Lehmann** (1966, S.36) **muss die Anzahl der Windungen bekannt sein, weil diese ein sehr konstantes Merkmal sowohl bei Mikro- als auch bei Makrokonchen ist."**
("According the opinion of Makowski (1963) and Lehmann (1966, S.36) the number of windings must be known, because they are a very constant feature of micro- as well as macro-conches).

D.Marchand (and his "club")
Ammonite fauna from marls with pyritized ammonites (Lower Oxfordian): Original Faunas at the Interface Distal Platform and Basin.

Marchand,D., Courville,Philippe, Scouflaire,Quentine, Bonon,Alain, Rossi,Jaques
Universite de Bourgogne, Dijon
Geologische Bundesanstalt Wien

..... show that the genera have a very small size adult (**close sutures**, opening of umbilical ridge, …

Creniceras: It can be noticed that **adult peristome are almost never preserved in this genera**
(What does "almost never" mean ? Is it "almost never" or "never" ?

Quenstedt (1866-1888):S.739:
"Already the old collectors are mentioning a pyritized and a calcareous form, the older one appears, though even not frequently, in the Ornate Marl, ……. The younger ones are found at the White Jurassic, possible passing total delta. They start already down at the Birmensdorf layer Fig .31 at Cantone Aargau, and the aperture shows the typical lappets., ……. **Lappets I never have seen within the pyritized forms. (= renggeri)**

("Schon die alten Sammler sprechen von einer verkiessten und einer verkalkten Form, jene die aeltere erscheint bei uns wenn auch nicht heufig im Ornatenthone. ……. Die juengeren gehen durch den Weissen Jura vielleicht ueber delta hinaus. Sie beginnen gleich ganz unten bei Birmensdorf Fig.31 im Canton Aargau, und haben deutlich geloeffelte Ohren, ……. Ohren habe ich bei den verkiesten nie gesehen. !!)".

Though Quenstedt did not separate Renggeri Marl from Ornate Marl, he never the less is clearly talking about a pyritized form within which he never could recognize lappets and a calcareous form which clearly shows lappets at the aperture. (= crenatum)

Further comments out of literature:

Marchand 2002 / about micromorphs from Lower Oxfordian Marls: "They are apparently mature specimens "although the final two septa are not close-set".

Surprise, surprise: he slowly notices and makes a remark that H.Markowski alreaddy did 1971.

Revision of the Middle Jurassic dimorphic ammonites genera STRIGOCERAS / CADOMOCERAS (Strigoceratidae) and related forms.
G.Schweigert, V.Dietze, R.B.Chandler, V.Mitta – Stuttgarter Beitraege zur Naturkunde / Serie B (Geologie & Palaeontologie) 2007

4. The phenomenon of dwarfismus in adult Macro-conchs ……. (after Palframans "Giant micro-conch" now Schweigerts "Dwarf Macro-conch)……
S.44 Within a Strigoceras population that can be considered to be more or less isochronous some of the specimens show adult features but remain remarkably small, often skipping the second sculptural stage of ontogeny.

In some …… the number of dwarfs is very high, whereas in others the normal size specimens dominate.

Within a chronospecies **there are adult forms varying from extremely small to very large** supporting the idea that this phenomenon is more likely to be *intraspecific variability* than sexual polymorhismus or specific diversification. (What about just juvenile and adult species ???)(what does he mean with sexual polymorphismus).

Own / Addition:

1) **The sudden close up of the sutur line** which is always with the smaller partner of the dimorph pair (micro conch) **is very obvious.**
2) The slowly close up of the sutur line of the bigger partner (macro-conch) is proceeding very slowly, more or less over a total revolution and therefore often much less obvious
3) R.A.Gygi published (Eclogae 1990, **Tafel 7/Abb.2)** a **Creniceras renggeri with a diameter of 28 mm**, R.Himmler **of 24mm.**