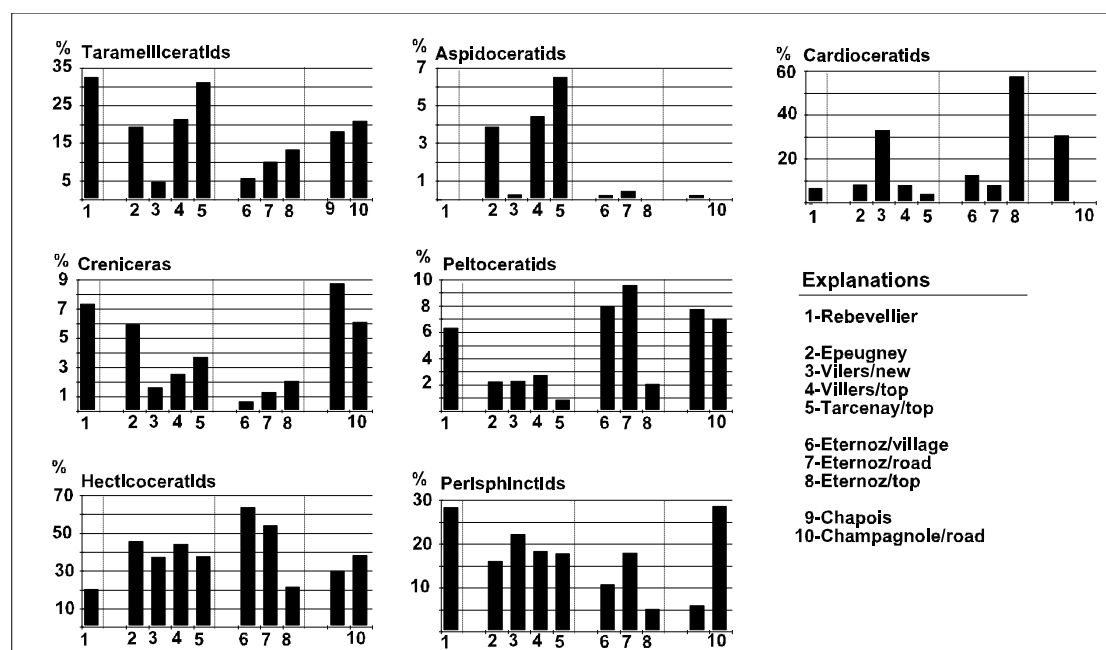


Bukowskii / Costicardia Subchron (plate 42.1)



Bukowskii / Costicardia subchron

To differentiate a Bukowskii subchron from a Costicardia subchron is too difficult for me. The relatively remarkable frequency of the Aspidoceratids and the relatively rare Peltoceratids at the area of Villers-s/s-Montrond and the low number of Creniceras in the area of Eternoz are worthwhile mentioning.

Whether these statements are appropriate on a subchron level should be left to the reader. Every one who wants to analyse more details may look at table 6.212, which has figures for previously shown graphs.

Abnormal ammonite shells

Exceptional wise one can find shells, which show differences of their normal features, specially their ornamentation. To me it does not make sense to discuss what the reason for these differences are. Prof.Hoelder from University Muenster/D has given latin names for these variances and makes proposals what the reasons for these variances might be like attack by a predator or repair, illness, genetic changes etc. At least the pictures show the possibilities this type of fossils have to overcome certain problems.

The following pages show abnormal shells which are exceptional findings. Whether the reason is a disease or a repair after an attack of a predator, who knows. I don't want to speculate.

N Abnormal shells

zVerl07z
Peltoceras, 13mm



Forking of the ribs on venter

zVerl17y
Properisphinctes bernensis 28mm



Forking of the ribs on venter

zVerl27y
Dactylioceras, 24mm



Leaving the spiral level (approx. last whorl)

Creniceras oder
Scaphitodites (?)



Changing the "spiral constant"

Hurt01

Injured ammonites

N Abnormal shells

Verl059
Hildoceras



Nearly total design lost, starting with keel, flanc furrow or ribbing.

Verl058
Hildoceras



Left and right flanc are totally different. Left could be semipolitum, right could be bifrons.

Verl048
Hildoceras, 31mm



No flanc furrow on the left side.

Verl037
Hildoceras, 32mm



No keel and no flanc furrow on the right side.

Hurt03

Injured ammonites

N Abnormal shells

Verl041
Catacoeloceras (?), 36mm



Shifting within the spiral level (see opposite side)

Verl043
Porpoceras, 30mm



Shifting within the spiral level (see opposite side)

Verl014
Mucrodactylites, 23mm



Forking of ribs don't come together on the other side. Therefore quite different numbers of ribs of both sides of the shell.

Verl022
Mucrodactylites, 25mm



Forking of ribs don't come together on the other side plus shifting within the spiral level.

Hurt04

Injured ammonites

N Abnormal shells

Verl044
Hildoceras, 43mm



Right flank blown up, left flank without furrow

Verl009
Hildoceras, 19mm



Left flank normal, right one without furrow, keel lost (notice the extern-lobus)

Verl089
Hildoceras, 22mm



Completely lost keel

Verl050
Hildoceras, 37mm

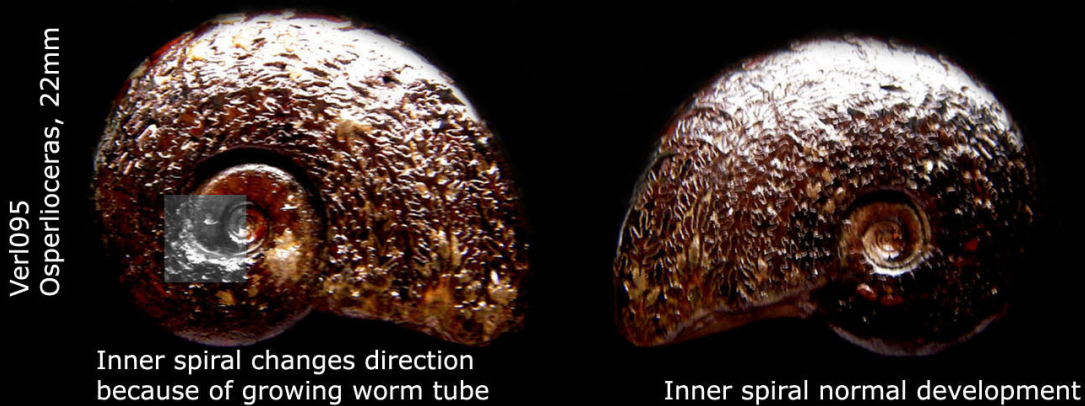


Completely lost keel

Hurt05

Injured ammonites

N Abnormal shells



Hurt06

Injured ammonites

r



Injured ammonites



Coll_Uth02 001a_128 Nautilus



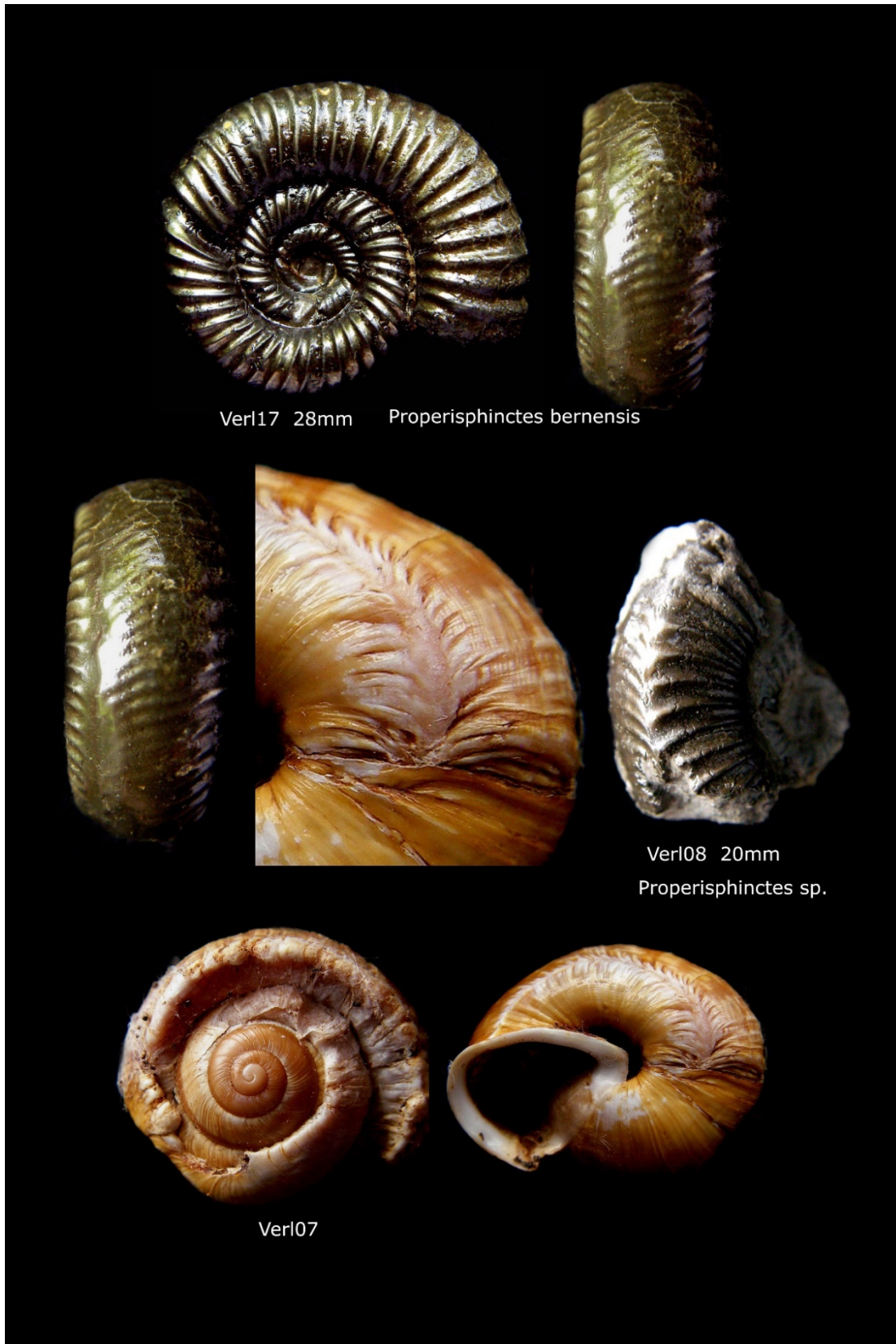
**Injured ammonites
Detail02e Shifting / Changing
the spiral level**



**Dr.Lange01a (Collection
Dr.B.Lange/ Basel-CH) Left side**



Dr.Lange01b Right side



Injured shells/(animals)

As one calls such a damage of this *Perisphinctes bernensis* (top) forking of ribs (because a *Perisphinctes* occasionally has ribs and the repair occasionally looks like forking of ribs), one can't call the changing of the design of that land snail for sure not forking of ribs (because there do not exist any ribs). But the principle of that repair looks very similar.

This animal as well survived this massive repair quite a while (approx. 1 ½ windings).