



xSIN_ChL043L Singapore



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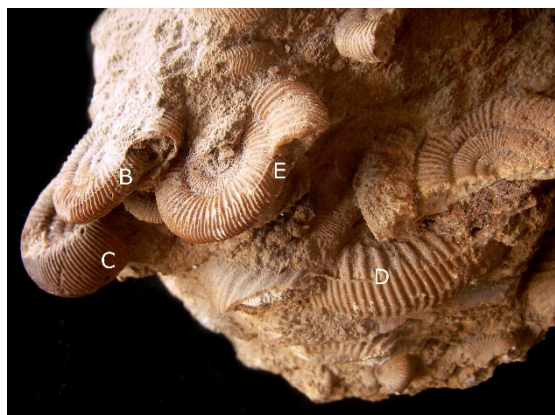
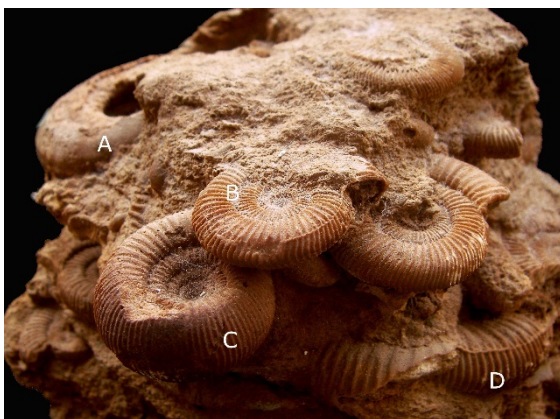
RSA_A07 005 South Africa



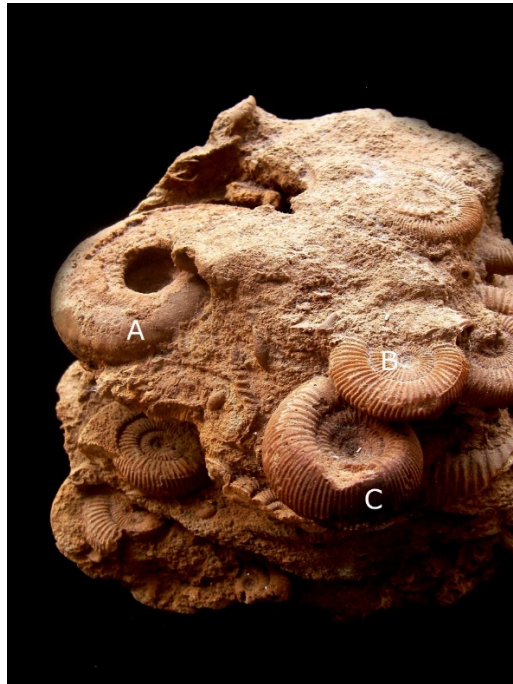
RSA_A07 006 South Africa

Some other examples. Only RSA A07 006 (above right) shows a bit more difference in size.

Sorted by currents ??



Dactylioceratidae – Forchheim / D



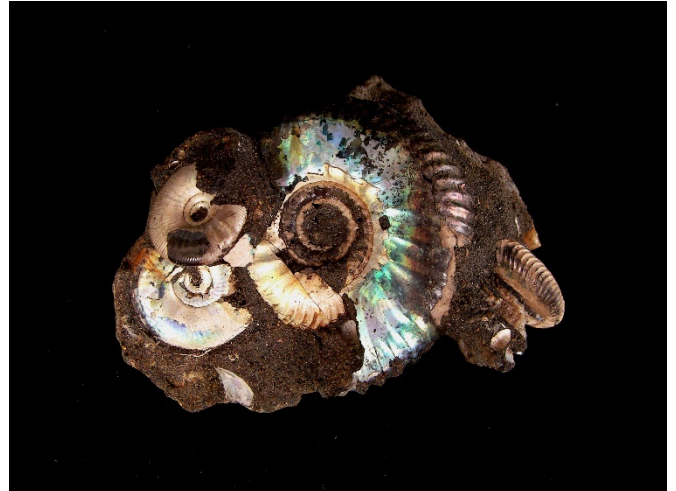
A-C = three different shell types

If one does not have the idea that the animals of these different sized shells have died at the same time and sunk to the sea floor, the only alternative might be moved by currents. But the remaining question would be: on the sea floor or on the beach. One may imagine that a current more easily transports smaller shells than bigger ones. As a consequence there must be places where smaller and bigger ones could be found together. Because of weaker current less bigger ones should be found and at the end very small ones or nothing.

This exactly corresponds with what could be seen on a beach to day. Here there are places where bigger and smaller ones could be found together (see picture *Turritella terebra*), but further only small shells or nothing at all. (as an alternative: where only small shells are on the beach there are only small ones in the sea ?).

A bit different it may look like, if an empty shell (not damaged at all and therefore not filled with water) is rising to the surface and then will be drifted by wind or current. As a given example I would like to use *Spirula spirula*, found on the Northern Island of New Zealand (east coast, close to Waipukurau). Here on a distance of about 50m more than 100 shells were found together with seaweed. Besides that, the total small bay even does not show a broken piece. (By the way: quite often the embryonic part very often was not preserved (see as well with ammonites).

For me it is very unlikely that the animals were living far apart, after death rising to the surface and by the wind drifted together. More likely they were meeting for mating and after that partly passed away like it has been noticed for the living *Sepia* (see TV from UK - BBC / David Attenborough)



Other examples from Russia

These two examples from Russia as well show an assemblage of shells of different size. Interesting for me: There are three different species with a mixture of different sized shells. (see size difference of micro- and Macro-conches).



Spirula spirula – NZ North Island / East coast south of Napier

Washed to the beach with seaweed. I picked up about 20, but left more than a hundred for other people to look for.

Spirula can be found at beaches worldwide, but normally only single pieces.



**Washed to the same stretch of a beach at Malaysia close to Mersing:
Turritella terebra**



**I_Segesta02 Segesta / Sicily
- Italy**



RSA02b 674 South Africa

As this example shows, there are still other possibilities for a gathering of e.g. snails. This example shows an accumulation of snails at the top of an agaves leaf (Italy) and at the top of a post/fence (South Africa).

As the picture was taken in summer at Sicily, the hottest time of the year and no rain, this curious assemblage possibly is the reaction on temperature, which is for sure slightly less hot at the top of the leaf or the top of the post compared to the bottom / soil. Besides that the shells shadow is shared by each other, which adds to the reduction of temperature. (That is the view of a human being).

Whatever the reason is: It is as well an example of a crowd of snails "without" external help like a currant (if one does not interpret the slightly difference in temperature between bottom and top as a help for transport).

The shells all had been closed up, if I remember right with a secretion of the animal. But how could they breeze under circumstances like that? The same question rises when talking about aptychi, whether they have been jaws or lockers of an ammonite shell. As a tendency the majority beliefs them to be jaws, because as a locker the animals would not be able to breeze (what people believe !!).

Conclusion:

Reason for the assemblage of shells might be some external impacts like a currant. But this might not be the only possibility, because it could be a movement by the animals themselves and what so ever.

Additionally:

Black smoker crowded with crabs (deep sea) or squids meeting for mating ((TV BBC-Bristol, David Attenborough)



Gathering of landsnails (picture by G.Poppe)

There are at least three different types of gathering: Floor, leafe, post. That means for gathering there does not seem to exist handicaps !