

POS514 – 3.Wochenbericht (10.06. - 16.06.2017)

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With new energy, after our short stay in Dubrovnik to enter Croatian waters, we have shifted to the eastern side of the Adriatic Sea. For instance our two colleagues from the Hrvatski Geološki Institut HGI Zagreb were happy to see that our recalculated time in theory could allow to sample all stations off Croatia as proposed (Fig. 1). We restarted station work at 09.06. only a few hours after departure at the margin of the South Adriatic Pit at ~510m water depth and took our first CTD and 3 multinet casts, followed by a Van Veen grab to test the sediment which was soft enough to complete the 26. station (Croatia C1) of our cruise with a series of another three grabs, seven multicores from a multicorer, and a Frahm core, making altogether 11 casts. Finally, we retrieved a ~410 cm-long gravity core, to our knowledge the first long gravity core ever taken in Croatian waters.

By the following 14 stations to the end of the cruise (Fig. 1) we completed the station net in the eastern Adriatic (started off Albania in the first week) to complete transects to later evaluate NW-SE and NE-SW gradients across the Adriatic basin. The highlight of the last week were also the first cores taken from the mid Adriatic pit C9 and C15 from ~200 m water depth, to be combined with our core taken on the Italian Side. Our last station C15 as was finished at noon of June 15th. It brought the longest gravity core of the cruise with 7.0 m in a 8 m-long barrel, confirming to us that POS514 was a full success.

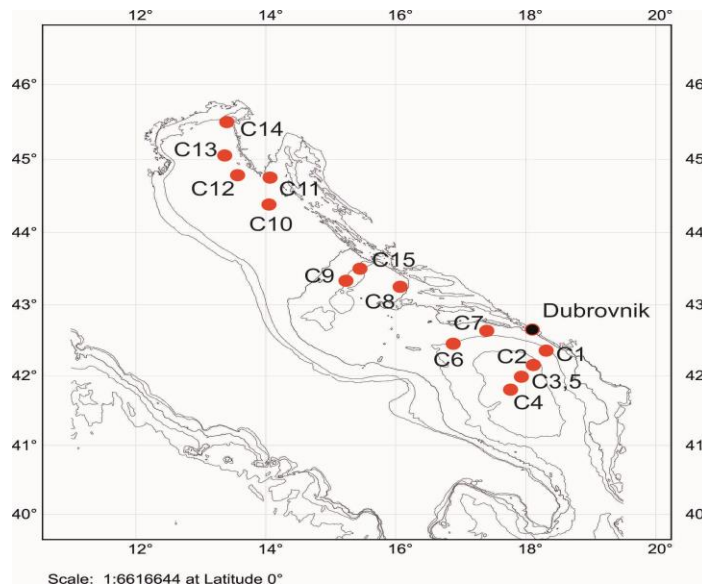


Fig. 1. Map of Croatia stations C1-C15 for the second leg of POS514 for 09.-15.06. Note that the northern Adriatic is very shallow with depth < ~100m (isoline crossing C9 number). The transect of stations C2-C4 retrieved the deepest sediments up to >1200 m from the South Adriatic Basin, possibly containing also ?sapropelic sediment and a preliminary volcanic ash layer.

Biologists and paleontologists/geologists at all stations continued to wash the large volumes of surficial sediment, usually started by 6 grabs, then followed by variable numbers of box/Frahm corers and sometimes by a multicore. We also took a large number of photos from the living recent/sub-recent benthic life and found many different “multispecies clumps”, i.e. decimeter-scale unique zoobenthos, frequently building on bivalve shells (*Pecten*), spotted by live sponges, bryozoans, small corals and by several, large and small ophiurid sea stars on top, that seemed to “rule” over the respective community below. Perhaps a most spectacular finding was the small (<1cm) echinoderm species *Echinocyamus pusillus*, as hundreds of specimens in the washed residues at one station. These will be studied in Tübingen within the SFB-TRR “Biological Design and Integrative Structures” by Jimmy Nebelsick and Tobias Grun (Foto 1). All long sediment cores and most of the sediment and species material will go into cooled storage at Tübingen.

W.D. (m)	CTD	MSN	MUC	FL	BC	GRAB	GC	Sum
> 1000m	5	15	4	-	5	-	2	31
500 - 1000m	8	19	8	4	-	10	6	55
100 - 500m	9	21	8	20	10	48	10	126
50 - 100m	2	5	-	9	2	10	2	30
30 - 50m	4	-	1	6	6	27	3	47
< 30m	5	-	-	7	20	36	6	74
Sum	33	60	21	46	43	131	29	363

Table 1. Summary of all 363 casts of instruments during cruise POS514, grouped to six ranges of water depths. CTD casts were taken from every new station. Van Veen grabs GRAB-, Frahm Lot FL-, and box cores BC were mostly used at shallow water depths of <500m, gravity cores GC and a multiple opening-closing plankton net MSN were preferred at deeper stations. Note GCs (6) also from <30 water depth W.D., which were not successful except two (0.1 and 1-m long) cores off Venice, due to sandy ground.



Foto 1. Starting the first station at 6:00h AM, happy altogether at 10:00h PM for no more station work to come that day. POS514 scientists from left to right: Orzren Hasan, Nikolina Ilijanić, Catalina Reyes Suarez, Petra Heinz, Martin Zuschin, Hartmut Schulz, Giuseppe Siena, Tobias Grun, Patrick Bufenberger, Julia Wukovits, Jimmy Nebelsick.