

Weekly report no. 2
(ANT XXI/2)
RV "Polarstern" 24. - 30.11.2003

The view from my cabin is looking straight ahead, this means southwards, and shows me a wide stretching blue-grey plain of water with small white horses and occasional bits of brash ice, that is bordered on the horizon by a row of giant ice bergs and the blurred contours of the shelf ice edge. Through binoculars you can already see the masts and containers of Neumayer Base.

Everybody, who would have told us two weeks ago that our entry to Atka Bay would be as it was would have been called a storyteller. At the start of our expedition we all were worried about the sea ice conditions, ice charts and satellite images were not looking promising. We viewed the first icebergs already at 40°S, passed the Polar Front at 53°S, and reached the pack ice edge at 56°S. For a week now the seawater temperatures have been below zero. But during the last days the ice condition has eased noticeably, southerly winds have blown large open lagoons into the pack ice desert, and the thickness of the sea ice is by far thinner than we had expected. Most of the ice floes and ice-plains on our way were less than half a meter thick and had a snow cover of a few decimetres only. Ice floes being pushed on top of each other (rafted) were uncommon, as were unfortunately animals as well.

Left over from the highly diverse bird fauna of Bouvet Island were only Antarctic and Snow petrels, very occasionally we encountered Emperor penguins, Adelie penguins and crab eater seals. The trained eye might see a distant minke whale blowing in the neighbouring open lagoon. But we do not complain – "Polarstern" managed the journey in record time due to most efficient support by the Bremen University ice charts and from Neumayer, we can do the relief tomorrow and the day after, can pick up the large "melon huts" for the seal group and can leave for the Drescher Inlet.

At the beginning of this week we were still lying off the volcanic island of Bouvet, whose cliffs, capes and glaciers looked either friendly or hostile depending on the weather conditions. "Friendly" is meant in a visual way; a castaway would find some narrow, black, sandy beaches covered with fur seals and elephant seals but straight behind, with one exception, are vertical rock cliffs leading into rubble fields and glacier caps. The exception is a small plateau on the western side with a hut for meteorology and large stocks of fur seals, Chinstrap and Macaroni penguins, an area protected by the Norwegian government. In calm weather the island seems to be nearly idyllic, lying in crystal-clear waters, surrounded by icebergs and inhabited by tens of thousands of sea birds, penguins and seals. The life-threatening aspect that is more common in this latitude is that shaped by wind and weather; then the cap of the islands vanishes in the haze, and only the surf of the rough seas rolling ashore marks the beach in front of

sinister rock cliffs. Not one flowering plant grows on this island, mosses and lichens only, but maybe this will change quite soon in the context of global warming.

Even if Bouvet does not appear as the ideal summer holiday destination for us humans (the mean temperature in summer is +0,5°C), this tiny spot of land in the South Atlantic seems to be very attractive to marine mammals. Our photographers on board tried to catch some of this atmosphere.

We were lucky with the weather at Bouvet. A predicted gale was distinctively calmer than expected and the protection by the island did the rest. Therefore we were able to use the Agassiz trawl (AGT) four times in depths between 100 and 550 m meter water depth. To our surprise the volcanic bottom was much less hostile than we had expected: the net stayed intact and brought very nice catches onto deck. Echinoderms dominated the catches, especially very agile brittle stars, which were noticeable at all stations, on some stations very colourful starfish, transparent sea cucumbers and fragile feather stars. On the other hand, the sea urchins shone off by being nearly completely absent. Later on, studying the photos of the underwater camera, we saw that the bottom was covered with a layer of fine sand as well as small pieces of lava in deeper waters, a substrate that does not offer food for sea urchins. The photos also showed unusual dense concentrations of sea cucumbers and calcareous tube worms at 130 m as well as broad-leaved bryozoans. Our taxonomists are well satisfied: in some groups of invertebrates the knowledge of the Bouvet fauna increased by a factor of ten – even with these few trawls only!

Disappointing have been baited traps, of course not taking Claude's amphipod traps into account. The scavenging amphipods seem to be really everywhere in high abundance, from the shallow to the deep sea, and they come along straight away as soon as bait is offered. The stone crabs, which we expected to find referring to former references from the Spiess Seamount that is only 120 miles away, did not bother about the offered bait as did the eel pouts, which were needed by our eco-physiologists for their experiments on temperature adaptation. How lucky that the AGTs delivered many intact Antarctic fishes, which have to act as the substitutes now.

The further run of the journey I have already described at the beginning. From the day of repentance and prayer to the first Sunday in Advent (today) this expedition could be compared with a relaxed coffee tour, cruising in extremely calm weather cutting smoothly through soft, thin sea ice. A major contribution to this well-being are the substantial meals and the refilled swimming pool, and yesterday evening the stewardesses decorated the messes in pre-Christmas décor with lots of love. Another reason for the good mood on board is that we are alongside the grandiose edge of the ice shelf in Atka Bay – best wishes from Neumayer.

And we join in! Sincerely yours, Wolf Arntz