

Interactive comment on “Sediment core fossils in ancient Lake Ohrid: testing for faunal change in molluscs since the Last Interglacial period” by C. Albrecht et al.

C. Albrecht et al.

christian.albrecht@allzool.bio.uni-giessen.de

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We are grateful to the valuable comments of the anonymous referee and reply as follows. Comment: Piston coring often causes some compaction. Can this factor be quantified?

Reply: Recovering lake sediments especially in greater sediment and water depths usually causes disturbance of the original depositional environment. Besides compaction by percussion piston coring also suction by the piston during coring and degassing of sediments when brought to surface can cause disturbances. Quantifying these combined causes of possible disturbance is unfortunately nearly impossible. In

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case of Lake Ohrid the most significant disturbance at deep-water sites (>100m) was caused by degassing of the sediment when brought to surface. This in some cases caused the emplacement of gas filled cracks with widths of up to 5cm and a lengthening in the order of 10% of the initial length of the cores. In the laboratory we subtracted the cracks from our field depths in order to establish a composite depth. Heavy degassing was, however, not the case for cores recovered from site Co1200.

Comment Chapter 3.1. Can the sedimentation rate for each unit be calculated?

Reply: Due to the relatively small amount (i.e. only 1 date for both Lithofacies I and III) and in some cases large errors of our dates calculations of sedimentation rates for core Co1200 is a somewhat difficult and probably rather erroneous exercise in this case.

Comment: Fig.2: it would be helpful to indicate the suggested boundaries between Holocene/Pleistocene (between units I and II) and also the boundaries between the Wurm glacial and interglacial – if realistic.

Reply: We added a rough stratigraphic column to Fig. 2.

Comment: ad Fig 2: or new figure: please show the sampling points and occurrences of the 13 species along the core. From the text it seems to be limited to Lithofacies III?

Reply: All fossil specimens were collected from Lithofacies III sediments. We sieved large quantities of sediment from the entire Lithofacies III succession in core Co1200 in order to get a representative fossil assemblage. The red framed optical and radiographic images to the right of Fig. 2 show a horizon within Lithofacies III which almost entirely consisted of intact and broken mollusc shells. This horizon could represent a shell bed deposited in a small depression on the lake floor or a shell bed formed by currents or wave action. Besides broken mollusc shells occurring within this horizon large numbers of intact shells were also found indicating that transport distances before deposition were probably rather short. The absence of mollusc fossils in Lithofacies II can probably best be explained by post-depositional dissolution of carbonates

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and/or greater water depths during deposition of Lithofacies II sediments. A more detailed discussion of carbonate sedimentation and preservation during glacial phases at Lake Ohrid can be found in Vogel et al. 2010b. Lake level stages are more thoroughly discussed in Lindhorst et al. 2010.

Christian Albrecht on behalf of the authors

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