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Mapping benthic communities in the Black Sea using a towed video array

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The loss of benthic biodiversity in the Black Sea over the past several decades has been well documented, but there are signs now of the re-establishment of diverse benthic communities. The occurrence, relative abundance, and community composition of benthic biota on the North-western shelf of the Black Sea was investigated during an interdisciplinary cruise on the RV Akademik in July-August 2006. This paper reports on the results of mapping and biotope classification work based on data collected from a towed high resolution video array, aided by more conventional methods for recovery of specimens for taxonomic purposes. The use of the video array allows observation of structural relationships between organisms *in situ*, and the surveying of much greater areas than conventional (dredge, grab) sampling allows. Video tows were conducted at 29 stations, totalling over 7.5 km of imagery for a total sampled area of 3000 m^2. More than 4000 individual images were analysed, and relationships of similarity between stations derived from ordination analyses. Preliminary results indicate the re-establishment of a *Phyllophora*-based community in sites towards the centre of the north-west shelf, in the general area of the extensive beds existing in the early part of last century, but subsequently lost (Zernov's Phyllophora Field). In inshore locations close to the mouths of the Danube and the Dneister, no recovery is as yet apparent. Towards the eastern side of the shelf, a different algal-dominated assemblage has established; whether this is a successional stage or an alternative climax community is not yet clear.