Abstract

The influence of Hediste diversicolor (O.F. MÜLLER, 1776) on the macro- and meiozoobenthos of a shallow water area of Mecklenburg Bay (Western Baltic **Sea)** / Bick, A.; Arlt, G. - In: Rostock. Meeresbilog. Beitr. (1993)1, S. 9-24

Short-term box experiments were performed in a sheltered shallow water area in the southern part of Mecklenburg Bay (Baltic Sea) to investigate the direct influence of *Hediste diversicolor* on the benthic macrofauna and meiofauna. Among the macrofauna, only the amphipod *Corophium volutator* was definitely negatively affected by the unnaturally high individual numbers of this polychaet, and natural populations of this species are probably also controlled in the same manner. No significant influence was ascertained in the infaunal polychaets **and** oligochaetes. Besides a slight increase in nematode abundances, the permanent meiofauna showed no appreciable response to higher *H. diversicolor* density. Since the artificially enlarged individual number of *H. diversicolor* in the boxes obviously decreased during the experiments, it is assumed that the population density of this polychaet is mainly controlled by intraspecific interactions such as cannibalism and competition for space and food.

A long-term study of **Zooplankton succession in enclosures with Special reference to *Eurytemora affinis* (POPPE), Calanoida, Copepoda** / Heerkloß, R.; Schiewer, U.; Wasmund, N.; Kühnen, E. - In: Rostock. Meeresbilog. Beitr. (1993)1, S. 25-35

The succession of Zooplankton in water collected from the Darß-Zingst estuary (Southern Baltic) was studied in three 90-litre compartments under defined light and temperature conditions for 15 months. The brackish water copepod *Eurytemora affinis* (Poppe) was dominant in all three compartments. Conclusions are drawn from the results concerning the causes of the rather fast decline of the spring population peak of this species, which is observed regularly in the Darss-Zingst estuary. The results indicate to an inhibitory effect of the cyanobacterium Gomphospheria pusilla on *E. affinis* and to an increase of nauplian mortality by cannibalism.

Sediment chemical investigations in coastal waters XXXII. Long-term comparisons of the dynamic of Sediments in shallow eutrophic coastal waters, demonstrated on the example of the Barther Bodden (Darss-Zingst bodden chain, southern Baltic) / Nausch, G.; Schlungbaum, G. - In: Rostock. Meeresbilog. Beitr. (1993)1, S.37-46

After a mapping out of the Sediments of the Barther Bodden, repeated between 1977-1980 four times, a new survey of the sediment quality of the same area was done in 1990. The aim was to find out possible long term variations. The investigations were performed by the same method using a 100-point-net with a distance between the stations in any direction of 500m. Summing up all five surveys we could not find in a period of around 15 years an evidence of increasing accumulation. This has to be evaluated rather as a result of an intensive turnover rate of the substances than as a evidence of lower loading out of the catchment area.

The oxygen demand of Sediments in the Darss-Zingst coastal waters (southern Baltic Sea) / Wasmund, N. - In: Rostock. Meeresbilog. Beitr. (1993)1, S. 47-59

The biologic-chemical oxygen demand of undisturbed sediment cores was determined *in situ* at two Sites of a shallow coastal water of the southern Baltic Sea, the so-called Darss-Zingst

Bodden Chain. The highest values (up to 130 ml $O_2 \cdot m^{-2} \cdot h^{-1}$) were recorded in May/June. The means of the four years of investigation varied between 23.6 and 61.1 ml $O_2 \cdot m^{-2} \cdot h^{-1}$. About 65 % of the biologic-chemical oxygen demand were due to pure chemical oxygen consumption. The biologic-chemical oxygen demand was correlated with water temperature. It decreased with increasing exposition to waves. In the course of the day, the highest biologic-chemical oxygen demand was recorded in the afternoon.

Fluorometry - a method for ecotoxicological purposes / Schiewer, U.; Madsen, L. - In: Rostock. Meeresbiolog. Beitr. (1993) 1, S. 61-75

A screening method based on in vivo fluorescence measurements for ecotoxicological purposes is described. Comparative studies involving measurements of the growth rate and the rate of photosynthesis of different algae species *(Phaeodactylum tricornutum, Ske/etonema costatum, Selenastrum capricornutum, Chlorella pyrenoidosa and Scenedesmus subspicatus).* The influences of (3,4-dichlorophenyl-1,1-dimethyl urea (DCMU), 2,4-dichlorphenoxyaetic acid (2,4-D), 4-chlor-2-methylphenoxyacetic acid (MCPA) and 4-nitrophenol (4-NP) and various kinds of waste water show that the results obtained by fluorometry are consistent with those obtained by the conventional methods. Compared with other methods, fluorescence measurements are quick, simple and cheap while simultaneously yielding more information.

Statistics of herring pound nat catches - a supporting method for the migration-behavivour analysis of the springspawning Rügen-herring / Jönsson, N.; Richter, T. - In: Rostock. Meeresbiolog. Beitr. (1993) 1, S.77-86

A catch statistic - on a dayly basis - of 97 herring pound nets shows a proper supplement to the results of former tagging-experiments. A comparison of the mean-herring-catches and the rough maturity-stages of that poundnet-herring makes it possible to characterize migration routes to and from the spawning areas.

Some details about yield of young-of-year fish in the pelagial of the Barther Strom in spring 1990 / Mehner, Th. - In: Rostock. Meeresbiolog. Beitr. (1993) 1, S. 87-94

From May to July 1990 we investigated the species composition of y-o-y fish in the pelagial of the Barther Strom using a bongo net. At first composition is dominated by herring (Clupea harengus) and perch (Perca fluviatilis), in late spring predominate goby larvae (Pomatoschistus microps and P. minutus). The maximum abundances for herring and perch achieve 24.6 ind/m^2 and 13.45 ind/m^2, respectively. These values result in maximum of freshweight of 913 and 680 mg/m^2. In opposition to the highest abundance of 8.5 ind/m^2 for gobies we found only small fresh weights. A plain feeding influence on copepod populations may be assumed.

Observations into the actual ocaurrence of some small fish species on the Baltic coast of Mecklenburg and Vorpommern (Northeast-Germany) / Winkler, H.M.; Thiel, R. - In: Rostock. Meeresbiolog. Beitr. (1993) 1, S. 95-104

This article presents records of noncommercial species on the coast of Mecklenburg-Vorpommern which have been carried out during the last 15 years. These records include 3 species of Gasterosteidae, 3 species of Syngnathidae, 5 species of Cottidae, 1 species

of Pholidae, 2 species of Ammodytidae and 5 species of Gobüdae. A critical discussion of the results has been performed using literature which refers to the investigation area. Observations of Syngnathus rostellatus and Aphia minuta ore frist records.

Optimisation of a method for chromosome preparation from fish eggs / Klinkhardt, M. - In: Rostock. Meeresbiolog. Beitr. (1993) 1, S. 105-115

An effective method for chromosome preparation from fish eggs has been tested. Optimal conditions for demonstration of metaphasis plates were determined in some experiments. The best moment for chromosome preparation lies in the first half of the period of egg development. A 6 hours treatment with colchizin (0,02%) and hypotonisation (0,075 M KCL or 0,8% Sodiumcitrate) for 1 hour is recommendable.

Coulometric generation of hydrogen sulfide standard solutions / Jeroschewski, P.; Schmul, A. - In: Rostock. Meeresbiolog. Beitr. (1993) 1, S. 117-122

The calibration of hydrogen sulfide/sulfide measuring systems is time-consuming and uncertain, especially at the ppm- and ppb-level. A Coulometric H_2S/sulfide generator was therefore developed to overcome all common problems and serve as a source for standard solutions in the concentration range of 8 ppb to 25 ppm hydrogen sulfide. The equipment is also suitable for on-site calibrations.