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Short Communication

The "Benthosgarten": Field experiments on benthic colonization in the Western Baltic. I. Initial colonization

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The "Benthosgarten", an area with different types of sediment containers designed for studying the development of a marine bottom community, is located at 20 m depth in the western part of Kiel Bay. The "sterile" sediment used in all containers has a mean **grain size of 125 μm** and a silt fraction of 20 % comparable with the normal sea bed at 20 m, and was taken from a gravel pit to avoid contamination by micro- and macrofauna.

24 1,5 m² Eternit containers dealt with in this paper were exposed in December 1975. They are 50 cm high and contain about 0.4 m³ of sediment. This size was chosen to get sufficiently large samples even for rarer species and to minimize possible border effects. After exposure, the substrates were sampled weekly until first colonization occurred, then every fortnight and later on monthly. Cores of different diameter were used to obtain samples of meiofauna and of juvenile and growing macrofauna.

The first animals to settle were nematodes, harpacticoids and mollusc larvae. One month after exposure there were 1000–1500 bivalve larvae (*Mya truncata*, *Cyprina islandica*, *Abra alba*, *Cardium fasciatum*, *Phaxas pellucidus*, *Saxicava sp.*) and 500 polychaete larvae (*Polydora sp.*) per 0,1 m². The bivalves declined in numbers until May when a large amount of *Polydora* covered the entire surface of the containers. The *Polydora* phase lasted until July. With the decrease of the spionids, there was a new spatfall of bivalves (mainly *Mytilus*, *Montacuta bidentata* and *Aloides gibba*) and polychaetes (*Nephtys spp.*, *Harmothoe spp.*, *Disoma multisetosum*, *Pectinaria koreni*, *Euchone papillose*, *Anaitides mucosa*, *Eteone sp.* and other phyllodocids) and crustaceans (*Diastylis rathkei*). Further colonization, mostly occurring in autumn, did not longer result in major changes of species composition. An exception ist the polychaete *Pectinaria koreni* which nearly disappeared from the "container community" in spite of large numbers of juveniles present until September.