

## HET BRAKKE WATER

Op bladeren van zeegras, *Zannicbella*, *Ruppia* en op de strengels van riet en biezen ontwikkelen zich kolonies van de hydroïeden *Laomedea loueni* en *Cordylophora caspia*. Op beide vestigt zich *Embletonia pallida*, op de eersgenoemde soort soms ook *Tergiber despectus* en *Eubranchius exiguus*. Het voor de pollepen geschikte substraat is in het brakke water toegevoegd door de aanleg van sluiscolken en streigers, waardoor ook de slakken meer vestigingskansen kregen. De laatste jaren worden vele brakwatergebieden echter door waterverontreiniging aangetast.

## The Netherlands beach as a cemetery for Mollusca

by

C. O. VAN REGTEREN ATTENA

(Rijksmuseum van Natuurlijke Historie, Leiden)

The collector of Mollusca acquainted with tropical or subtropical coasts, or even with those of the nearby Channel, will be disappointed when visiting the North Sea shore of the Netherlands. The very few species of which he can pick up specimens in their natural surroundings are inhabitants of structures made by man: dikes, moles, and piers built for protecting the coast and the entrances of ports. The sand which low tide leaves uncovered is too much exposed to the surf when tide is rising again to be a safe habitat for Mollusca (cf. fig. 1, 2).

Some more species can be found in situ when the large mud flats in our estuaries and in the Wadden Sea<sup>1)</sup> are more or less accessible during low tide, whereas the stones and poles of the dikes and jetties along their coasts are also inhabited by some species not found along our North Sea coast. But even an assiduous collector, who is availing himself of every opportunity for collecting Mollusca over a period of several years, will not be able to trace more than a few dozen of species of marine Mollusca to their natural surroundings in the Netherlands, unless he disposes of a ship with special equipment.

This is the main reason why beach combing in the special sense of searching the beach for Mollusca and their shells which are washed ashore, is so popular among malacologists in the Netherlands. For the average collector it is the only way of getting acquainted with a reasonable number of species of marine Mollusca.

At best the specimens thus collected are just dying and lived just beyond the surf off the place where they are found. But there is evidence that shells of extinct species are found on the beach, and that some specimens have been transported over a long distance before being washed ashore. So two questions are to be answered about every specimen picked up on the beach: when did this animal live, and where did it live? Often these questions cannot be answered at all, but the experience of many collectors during many years has made it possible to distinguish a number of categories into which many records of Mollusca washed ashore on the Dutch beach can be placed with more or less certainty. It is the purpose of this paper to give a brief survey of these categories.

<sup>1)</sup> The localities mentioned in this paper can be found on the map, fig. 3.