ON THE FORMATION OF BANKS
BY MYTILUS EDULIS L.

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I. INTRODUCTION

Mytilus edulis L. occurs on the northern hemisphere on the coasts of the Atlantic Ocean, in Europe as well as in America. The mussels are restricted to the littoral zone (White, 1937). In this area they are not regularly distributed, however, but form banks. This investigation is an effort to explain how this formation of banks is brought about. The work was carried out from July till October, 1939, at the Zoological Station of the Netherland Zoological Society, Den Helder. I am greatly indebted to Dr. J. Verwey, Director of the Station, for suggesting the subject to me, for his constructive criticism and help in the preparation of this paper.
II. PRELIMINARY OBSERVATIONS

The Harbour of Den Helder, the Nieuwe Diep, retains its depth by means of a system of basalt dikes, the Leidam and the Vangdam. These dikes enclose muddy sandflats (see fig. 1 of Kuenen's as well as of this paper), the so called Zuidwal, running dry for the greater part at low tide. The Zoological Station have been making thorough ecological investigations in this area during a number of years. To this end the flats have been divided, by means of concrete poles, into squares with sides of 200 m. The poles, standing on the angles of the squares, are drawn up in rows indicated by letters, whereas the poles themselves bear figures.

Fig. 1. Map of the Zuidwal Sands, compare also text and fig. i and i 8 of Kuenen's paper. Italic figures denote hectometer poles on Vangdam, A, B, C the rows of concrete poles, the upright figures the numbers of the latter. Underlined figures give the figures of the tiles laid out. Dotted area represents the bank of young, newly settled mussels.

There have been mussel banks in this area for several years and they have served as material for an investigation into the causes of the distribution of Mytilus on these flats by Kuenen. Besides mussels especially the lower eastern part of the flats possesses a rich population of cockles (Cardium edule L.). The ecology of this species was studied by Kreger; during his investigation dense patches of these animals were lying chiefly near pole A6 and A7 and between A7, C7, B8, A9 and the