

SARSIA



A NEW OBSERVATION OF *CREPIDULA FORNICATA* (PROSOBRANCHIA, CALYPTRAEIDAE) IN WESTERN NORWAY

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A live male specimen of *Crepidula fornicata* (LINNÉ, 1758) was found in shallow water in a bay at Ådnøya in Kvitøy, Rogaland county, in July 1996. The specimen was about 2.5 cm long and attached to an empty *C. fornicata* shell, about 5 cm long. The record is the first reported west of Mandal, Norway.

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INTRODUCTION

Crepidula fornicata was originally distributed on the eastern coast of North America, where it lives between 18°N and 47°N (WALNE 1956). From the east coast of North America it has been introduced both to the Pacific coast of North America and to Europe. It was introduced to England from USA around 1880. From Great Britain it has spread to other countries in Europe, including Norway.

The first observations from Norway were of some empty shells and fragments of shells in 1958 (BERGAN 1969). A live specimen was collected in 1962 (SEMB JOHANSSON 1963). In Norway *C. fornicata* has been found between Tjøme and Mandal. It is assumed to have spread from Denmark to Norway by larval transport. Summaries of earlier observations are given by DOMMASNES & SCHRAM (1973) and BERGSTAD (1974).

OBSERVATION AND DISCUSSION

The observation of a living, about 2.5 cm long *Crepidula fornicata* which is presented here was made in July 1996 in a small, shallow bay at Ådnøya in Kvitøy, Rogaland, Norway (Fig. 1). Some oysters were found

at the same site. The specimen was found among small stones and gravel in shallow water, attached to an empty shell of *C. fornicata*, about 5 cm long. Both shells were grey-brownish with darker brown spots. The living specimen was identified to be a male.

During the summer of 1996 some empty shells of *C. fornicata* were found at Orresanden, Rogaland by J.T. Salvesen (HAGEN 1996). This and the observation from Kvitøy are the only ones reported west of Mandal in Norway (Fig. 1). The question remains whether *C. fornicata* now breeds west of Mandal, or if the reported specimens have originated from drifting larvae. *C. fornicata* spawns in spring, the eggs hatch during the summer, and the planktonic larvae settle after about a month (CHIPPERFIELD 1951). However, since several shells have been found in the area it seems reasonable to assume that *C. fornicata* now is well established west of Mandal. The observation of two shells in a chain support this, even though only one specimen was alive when it was found. *C. fornicata* breeds in chains, where the upper individuals are males and the lower individuals are females. An individual usually starts out as a male on the top of the chain. When it is transferred downwards in the chain a transition to female takes place in the individual, and thus the lower and largest

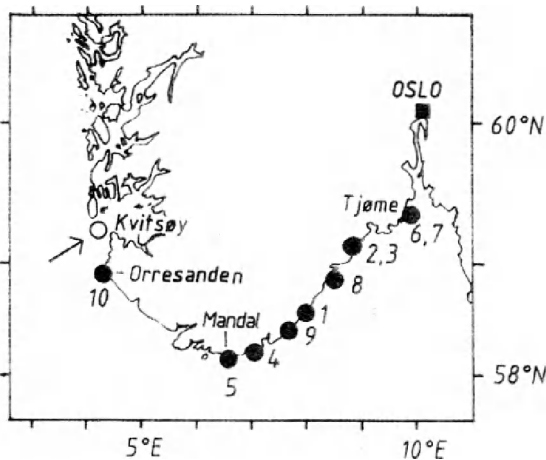


Figure 1. Observations of *Crepidula fornicata* in Norway. (○) the observation presented here (from Ådnøya in Kvitøy). (●) other observations of empty shells (or fragments of shells) or living specimens (single or in chain) chronologically numbered: 1 (ref. BERGAN 1969), 2 and 3 (ref. SEMB JOHANSSON 1963), 4 (ref. BERGAN 1969), 5 (ref. VALEUR 1967), 6 and 7 (ref. BERGAN 1969), 8 (ref. DOMMASNES & SCHRAM 1973), 9 (ref. BERGSTAD 1974) and 10 (observation by J.T. Salvesen, ref. HAGEN 1996).

individuals are almost always females (ORTON 1909). The size of the empty shell found in Kvitøy is close to the maximum size of *C. fornicata* which WALNE (1956) found in a study from Great Britain, which suggests that this might have been an old female.

In Great Britain (WALNE 1956) and in other countries in Europe (MORTENSEN 1989), *C. fornicata* has become established in great densities on oyster grounds. The environmental requirements of the two species seem to be similar, and WALNE (1956) showed that the abundance of *C. fornicata* is a good indicator of the hydrographic suitability for oysters in an area. Interestingly, several oysters were found at the site of the present observation of *C. fornicata* in Kvitøy. However, since there are few suitable sites for oysters in Norway there are probably few sites where we should expect optimal environmental conditions for *C. fornicata* in Norway.

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