

Three marine mollusc species new to the Dutch recent fauna

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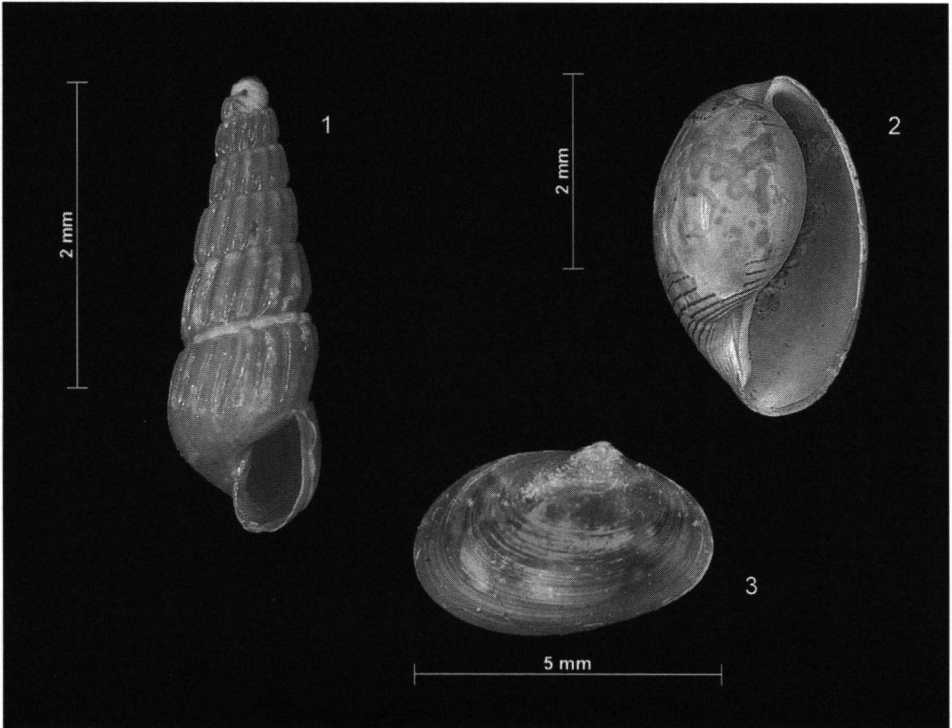
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The recent occurrence of three mollusc species in the Dutch part of the North Sea is reported, i.e. *Turbonilla pusilla*, *Roxania utriculus* and *Tellimya tenella*. All are new to the Dutch malacofauna. For *T. pusilla* it is also the northernmost record, and the first record for the North Sea.

Key words: Gastropoda, Pyramidellidae, Scaphandridae, Bivalvia, Montacutidae, *Turbonilla*, *Roxania*, *Tellimya*, biogeography, Netherlands.

INTRODUCTION

In the framework of the monitoring programme BIOMON (Biological Monitoring of marine waters), a research programme initiated and financed by the Dutch National



Figs 1-3. Marine species new to the Dutch recent fauna (shells in colln R. Daan). 1; *Turbonilla pusilla* (Philippi, 1844), 2001, station DOG-05; 2, *Roxania utriculus* (Brocchi, 1814), 2001, station OYS-03; 3, *Tellimya tenella* (Lovén, 1846), 2001; station OYS-01.

Institute for Coastal and Marine Management, 'RIKZ') the benthic fauna in the Dutch part of the North Sea is sampled yearly. Since 1995 the programme covers 100 stations, which are sampled with a boxcorer ( $\varnothing$  31 cm). Within the project several species have been found that were not known to occur in the Dutch sector of the North Sea. In a previous paper we reported on four mollusc species that were new to the Dutch recent fauna (Daan et al., 2001). In 2001 we again found living specimens of three species which are, to our knowledge, new for the Dutch fauna. All were found in the northern part of the Dutch sector, i.e. the Oyster Ground and the Dogger Bank. For their taxonomy we followed CLEMAM (2003) and add some data on their taxonomy, distribution and ecology.

## SYSTEMATIC PART

### Pyramidellidae

#### *Turbonilla pusilla* (Philippi, 1844) (fig. 1)

*Turbonilla pusilla*; Van Aartsen, 1981: 83, pl. 4 fig. 25. Graham, 1988: 626.

**Material.** – The species was recorded at the following stations: DOG-05, 54°54'N 3°14'E, 36 m, silt fraction 1%, 1 shell (3 mm), 2001; OYS-38, 53°30'N 3°00'E, 33 m, silt fraction 7%, 1 shell (3 mm), 2001; OFF-11, 53°17'N 3° 31'E, 27 m, silt fraction 6%, 4 shells (2-3 mm), 2001.

**Distribution.** – According to Graham (1988: 626) and Nordsieck (1972: 124) *T. pusilla* is a southern species with its northern limit off the south-western parts of the British Isles and living on soft bottoms 5-50 m deep. This species has been often mixed up with *T. innovata* Monterosato, 1884. Therefore there is confusion about its distribution (Seaward, 1990: 49). Besides, Seaward (1982, 1990) does not mention any recent live records, only empty shells. We found the species alive for the first time in 2001. However, in previous years there were sometimes empty shells in the samples. So the finds of 2001 do not point at a unique recent invasion of the species. Our records are the first for the North Sea.

**Biology.** – Pyramidellids are free living ectoparasites. The hosts of only a few *Turbonilla*'s are known and these are usually tube worms or Hydrozoa (Fretter & Graham, 1994: 245). For *T. pusilla* the host(s) are not known. Of the macrofaunal species that were found in our samples with *T. pusilla*, two tube building polychaetes [*Spiophanes bombyx* (Claparède, 1870) at DOG 5 and OFF 11 and *Owenia fusiformis* Della Chiaje, 1842 at DOG5] seem possible hosts to us. However, there is no indication that one of these species is a specific host. *S. bombyx* is very common in the North Sea and often abundant at several stations, but there was no relation between the occurrence of *T. pusilla* and the abundance of *S. bombyx*. The abundance of *S. bombyx* was not particularly high at any of the stations where *T. pusilla* was found. *O. fusiformis* is frequently found at the Dogger Bank, but is sparsely distributed in the rest of the Dutch sector. The species was not particularly abundant at the station where it occurred together with *T. pusilla*. If *T. pusilla* is not associated with both species mentioned, another possible host could be a member of the Serpulidae, which live on large shells. However, we have no evidence for this, since epifaunal species are usually not recorded.

Scaphandridae

*Roxania utriculus* (Brocchi, 1814) (fig. 2)

*Bulla utriculata*; Pasteur-Humbert, 1962: 110, pl. 41 fig. 182.

*Roxania utriculus*; Thompson & Brown, 1976: 26, fig. 9C, D. Thompson, 1988: 48-49, fig. 15A-E.

Material. – The species was recorded at OYS-03, 55°00'N 4°00'E, 48 m, silt fraction 8%, 1 shell (3.5 mm), 2001.

Distribution. – The species lives in subtidal muddy sands, down to 1500 m depth, and occurs all around the British Isles, further south to the Canary Islands and the Mediterranean (Thompson & Brown, 1976: 26) and off N. Africa (Pasteur-Humbert, 1962). For the North Sea Seaward (1982: fig 281; 1990: 42) mentions two records (live) east of Scotland after 1950. Before 1950 Hargreaves (1910) mentions an empty shell from the central North Sea, and Leckenby & Marshall (1875: 393) found it at the Dogger Bank without specifying if it was alive. Our record is the first exact confirmation for the Dutch part of the North Sea.

Thompson & Brown (1976) refer to old reports where the species is mentioned as an important source of food for haddock. This suggests that *R. utriculus* may occur, at least locally, in high abundance.

Biology. – The food of *R. utriculus* is not known. The gizzard has three non-calcified chitinous plates, presumable to crush the food (Gantès & Cornet, 1981). It is further reported that the animal can swim with ease.

Montacutidae

*Tellimya tenella* (Lovén, 1846) (fig. 3)

*Montacuta tenella*; Ockelmann, 1965: 211, pl. 5 figs 1, 2A.

*Tellimya tenella*; Van Aartsen, 1996: 33, fig. 10L, R.

Material. – The species was recorded at the following stations: OYS-01, 54°23'N 3°25'E, 30 m, silt fraction 7%, 2 shells (3.5-5 mm), 2001; OYS-03, 55°00'N 4°00'E, 48 m, silt fraction 8%, 3 shells (2 mm), 2001; OYS-07, 54°53'N 4°18'E, 51 m, silt fraction 20%, 1 shell (2 mm), 2001; OYS-15, 54°28'N 4°21'E, 50 m, silt fraction 22%, 1 shell (4 mm), 2001; OYS-37, 54°9'N 3°20'E, 49 m, silt fraction 18%, 2 shells (3-3.5 mm), 1997.

Distribution. – *Tellimya tenella* is a boreal species that occurs from northern Norway south to the Danish waters and west to the Porcupine Bank near Ireland (Ockelmann, 1965: 215). Barel & Kramers (1977: 85), who review the literature of all echinoderm associates of the NE Atlantic, mention it from the Gullmarfjord, SW Sweden. In the North Sea it has been found only in the northern part, although some records of *Tellimya ferruginosa* (Montagu, 1808) from the North Sea may in fact be this species (Seaward, 1990: 76). Our record is the first one for the Dutch part of the North Sea. The species lives in soft bottoms, varying from silty sand to pure mud or clay, at depths between 15 and 750 m.

Biology. – Montacutidae are known to live as commensals of other invertebrates, usually echinoderms. For example, in the North Sea *T. ferruginosa* lives in association with the sea urchin *Echinocardium cordatum* (Pennant, 1777) and *Montacuta substriata* (Montagu, 1808) with *Spatangus purpureus* O.F. Müller, 1776 (Oldfield, 1961). Lovén (1850: 382) alrea-

dy mentioned that *T. tenella* usually occurs on the echinoid *Brissopsis lyrifera* (Forbes, 1841). This was supported by Ockelman (1965: 215) who found *T. tenella* almost exclusively in (grab) samples that also contained *B. lyrifera* and if the latter did not occur in the same sample it was always found in the vicinity of the place where the sample was taken. Our data are in accordance with Ockelmann's observations. At three of the five stations where *T. tenella* occurred, *B. lyrifera* was also present. Since *B. lyrifera* is found rarely in boxcore samples, the co-occurrence of both species cannot be accidental, but unmistakably shows that they are associated.

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