

**A second record in the Netherlands of
Bythiospeum husmanni (C. Boettger, 1963) from an archaeological excavation
(Gastropoda: Hydrobiidae)**

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Shells of the groundwater snail *Bythiospeum husmanni* were found in the fillings of an ancient water well, dug around 1000 years BC, during archaeological excavations close to the river Rhine near Tiel (Betuwe area, Prov. of Gelderland). This is the second Dutch record of the species.

Key words: Gastropoda, Caenogastropoda, Hydrobiidae, *Bythiospeum*, groundwater, Rhine deposits, the Netherlands.

INTRODUCTION

In 1993 the groundwater snail *Bythiospeum husmanni* was first reported in the Netherlands. Empty shells of the species were sieved from deposits at an archaeological excavation at Kesteren near the river Rhine (Kuijper & Gittenberger, 1993). This was the first record of the species in Europe since the species was described from groundwater of the valley of the River Ruhr near Dortmund, Germany (Boettger, 1963). Recently, the species was collected alive near the type locality (Schütt, 2006 and references therein; Kobińska et al., 2006). In this short note I will report a second Dutch find of empty shells in the Netherlands.

With this contribution I should like to thank Edi for his support during the past 35 years of my work on molluscs.

RESULTS

From an archaeological excavation at Tiel – Medel “Bredesteeg” (Dutch grid “Amerfoort Coördinaat” 159.880 / 436.841; see Hoof & Jongste, 2005), several shells were sieved from a soil sample (no. 982) of 5 l of clay from the filling of a prehistoric water well at a depth of ca. 2 m (= about 2.30 m + NAP) on April 29, 2005. This locality is situated 4 km NE. of the town centre of Tiel and about 8 km from the first site at Kesteren (fig. 1). In the same sample dozens of shells of other land and freshwater mollusks were present: *Anisus leucostoma* (Millet, 1813), *Bithynia tentaculata* (Linné, 1758), *Pisidium* spec., *Valvata cristata* Müller, 1774, *V. piscinalis* (Müller, 1774), *Cochlicopa lubrica* (Müller, 1774), *Cepaea/Arianta* spec., *Limacidae* spec., *Oxyloma/Succinea* spec., *Succinella oblonga* (Draparnaud, 1801), *Trochulus hispidus* (Linné, 1758), *Vertigo* spec. and *Vallonia pulchella* (Müller, 1774). Other soil samples from the same excavation did not yield more shells. In all 23 l of soil was sieved with 0.25 mm mesh.

Like in Kesteren, no living animals of *Bythiospeum* were found. In all, 2 complete shells and 2 fragments were found. The largest (adult) shell measures 3.2 × 1.2 mm (fig. 2). The shells originated from deposits which were penetrated when the water well was



Fig. 1. Map of The Netherlands with the major water courses. Dots indicate the localities where *Bythiospeum husmanni* has been collected from archaeological sites.

dug. It concerns Holocene deposits of the river Rhine that consist of clay and sandy clay. The age of the deposit is estimated around 3000 years BC. This material was deposited as levee and/or so-called crevasse deposits and back swamp clays.

REMARKS

As to the age of the *Bythiospeum* shells, there are two possibilities: either the shells inhabited the deposits in which the well was dug, in which case the shells lived around 3000 years BC. Or, the animals lived in the water of the well while it was in use. The well is dated to the Middle or Late Bronze Age (1500 – 800 BC). Since then younger sediments have covered the whole settlement.

Based on the kind of soil – a soft, sticky clay – it seems unlikely that the species is presently still living at this site, since it inhabits interstitial space of coarse sands and gravel (Schütt, 2006, and references therein). In view of the recent discovery of living specimens near the type locality in Nordrhein-Westfalen, it seems quite possible that the species still lives in groundwater near the Rhine and its tributaries in the Netherlands. The habitat is still available but difficult to access, since the gravel and coarse sand beds are mostly covered by a thick layer of clay. Attempts by J. Notenboom, D.M. Soes and A.J. de Winter in the Betuwe area to sample the groundwater by pumping up groundwater, hanging out baited nets in pipes and sampling water wells by means of a Svetkov net so far remained unsuccessful.

TAXONOMIC REMARK

Gloër & Meier-Brook (1994) consider *B. husmanni* (= *Lartetia husmanni*) a form of *Bythiospeum acicula* (Held, 1838). According to Schütt (2006) the proper name for this species is *B. acicula moenanum* (Flach, 1886). However, for the time being we prefer to use the name *husmanni*, following Kobialka et al. (2006), in view of the very confused taxonomy of the German *Bythiospeum* species.

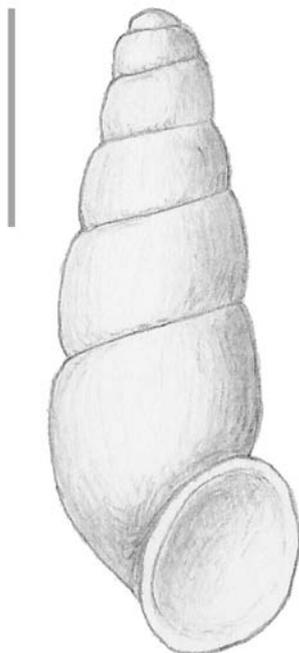


Fig. 2. Shell of *Bythiospeum husmanni* from Tiel – Medel. Scale bar indicates 1 mm.

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