

TWO FURTHER UK SITES FOR *CAECUM ARMORICUM*, DE FOLIN, 1869, FORMERLY KNOWN ONLY IN THE FLEET, DORSET, AS A MEMBER OF THE INTERSTITIAL 'SPRINGS' COMMUNITY

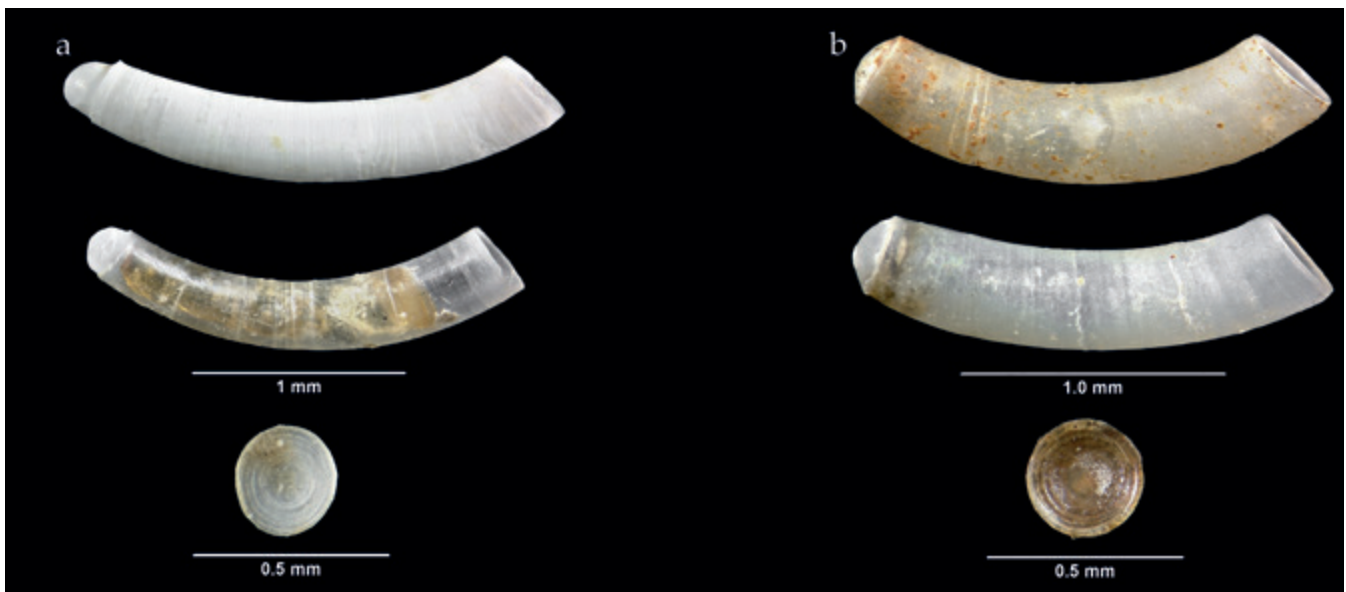
Caecum armoricum de Folin, 1869 is one of three *Caecum* species, in the Superfamily Rissoacea, which occur in British waters. The first live British record of the species was made by Dennis Seaward in 1986 working in The Fleet, Dorset. There he found up to 100 living specimens and many shells in several litre pebble samples from mid-Fleet sites (Seaward 1987a&b). The species occurred in all stages from post-larval to fully adult and appeared to represent a significant member of the mollusc community inhabiting the interstitial micro-habitat which results from the local 'springs' phenomenon. Although much of the littoral shingle is consolidated with mud and detritus, at certain places on the landward side of the Chesil Bank, where the shingle slopes into the sheltered Fleet lagoon, springs emanate from the shingle, washing the pebbles and keeping interstices clean as they flow. The salinity and temperature of the 'springs' water match those of the seawater in Lyme Bay. The water may have percolated for a distance of 200m or more through the Chesil Bank which forms the seaward boundary of the Fleet or it may represent Fleet water stored at high tide.

The sheltered and stable spring habitat has yielded records for many marine invertebrates some of which are rare or in an unusual habitat. Although *Truncatella subcylindrica* was also known to be living in an interstitial habitat in the littoral shingle of the Fleet at that time, Seaward did not name the species as one of the suite of molluscs living as associates of *C. armoricum*.

Now, some 20 years later two further sites for *C. armoricum* have come to light.

On 30th July 2007 six Kent Wildlife Trust members surveyed saline lagoons at Lydd ranges (Army Training Estate, South East TR0204174) one purpose of which was to search for *Truncatella subcylindrica*, which was not found. The pools lie between the seaward shingle ridge of 3-4 metres and a ridge 200 metres inland topped by a path. The lumpy terrain was covered by saltmarsh and there were several large pools and runnels. Water could be seen seeping through the seaward ridge. Salinity levels in these pools vary and can reach levels of 49ppt.

Leucophytia bidentata was found amongst the roots of *Halimione portucaloides*. In the pools were abundant and large *Littorina saxatilis* form



A *Caecum armoricum* Upper shell: Alive in shingle at extreme high water mark, Church Norton, W. Sussex, October 2007 Lower shell: From saline pool, Lydd Ranges, Kent, July 2007. Operculum from upper shell B *Caecum glabrum* Upper shell: Dredged alive from maerl bed, Lulworth Banks, Dorset, June 1987 Lower shell: From shellsand, Fanore, west coast of Ireland, May 1989. Operculum from upper shell

tenebrosa, *Hydrobia ulvae*, *Hydrobia ventrosa*, *Abra tenuis* and shells of *Scrobicularia plana*. A sample of pebbles and mud from the bottom of one of the pools was taken away for processing. It was washed through a 0.3mm mesh sieve. The residue was found to contain shells, including live-taken individuals of *Caecum*. These have been confirmed as *Caecum armoricum* by Dennis Seward.

Church Norton, a known site for *Truncatella subcylindrica* was visited on 28 October 2007 primarily to allow a more detailed examination of the habitat within which *Truncatella subcylindrica* occurs. The site is a vegetated shingle spit at the mouth of Paghham Harbour and is included within Paghham Harbour SSSI. There are a number of saline lagoons, in particular Ferry Pool, Little Lagoon and Paghham Lagoon. Typically, saline lagoons have shallow water and are separated from the sea by shingle or sand banks (and, rarely, harder substrates such as rock). The salinity of these lagoons varies from brackish (low salinity) to hyper saline (high salinity, above the seawater). The spit is partially maintained through groins on the seaward side. The site (SZ87859575) was visited about an hour before high water and thus it was only possible to examine the area just below HWS. The habitat here consisted of small pebbles with patches of organic detritus just below the surface layer. It was in this microhabitat that *Truncatella subcylindrica* was most abundant. In order to allow a more comprehensive working of the habitat two samples (approximately 10cm square and the same deep) were removed for more detailed examination. The samples were later processed in freshwater over 2mm (to separate off the pebbles) and 250um sieves and the residue of the latter examined under X10.

The samples were dominated by *Truncatella subcylindrica*, but also contained *Lasaea rubra* and *Hydrobia ulvae*. In addition to these, however, *Caecum armoricum* was found in both samples. Most of the shells recovered (approximately 20 per sample) were fresh dead but at least one or two live individuals per sample were also recorded indicating that the species definitely exists around HWS. A more detailed examination of the site would be needed in order to determine the vertical distribution of the species down the shore.

Because the species is so small, the most effective method of searching for it is to remove a sample of the habitat for processing at home or in the laboratory. All the residue washed from pebbles and larger detritus should be retained

and passed over a fine sieve. Experience at Lydd and Paghham indicates that a 0.5mm mesh sieve (traditionally the mesh size of choice for micro-mollusc searching) may not be fine enough to trap *Caecum* shells and a 0.3mm mesh increases the chances of success, especially if specimens in the sample are not numerous.

The two other *Caecum* species, *C. glabrum* (Montagu) and *C. imperforatum* (Kanmacher) live sublittorally in the interstices of coarse sands and shell gravels around the British Isles. Whilst *C. imperforatum* is rather distinct morphologically from *C. armoricum* and *C. glabrum*, on account of its annular grooved sculpture, the other two species are essentially smooth or inconspicuously grooved, and translucent, tubes. *C. armoricum* is distinguished from *C. glabrum* by the possession of a more prominent and asymmetrically pointed septum closing the shell at the abapertural end (Hoeksema & Segers, 1993).

That twenty years have elapsed since the first record for *C. armoricum* in the British Isles is worthy of comment. While dispersal of species in such cryptic and disjunct habitats is poorly understood, it is unlikely that these new records are simply a reflection of the species extending its range since its initial discovery in the Fleet. Rather it seems more likely that the species is simply under-recorded in the UK and that more targeted searching of appropriate habitat is likely to reveal additional localities for the species.

Hoeksema, D.F. & Segers W. 1993. On the systematics and distribution of the marine gastropod *Caecum armoricum* de Folin, 1869 (Prosobranchia, Caecidae). *Gloria Maris*. **31**. 79-83.

Seaward, D. 1987a. A New Addition to the British Marine Mollusc Fauna Living in the Fleet, Dorset. *The Conchologists' Newsletter*. **103**. 66-7.

Seaward, D.R. 1987b *Caecum armoricum* deFolin, 1869, new to the British marine fauna, living in the fleet, Dorset, within an unusual habitat. *Proceedings Dorset Natural History and Archaeological Society*, **109**, 165.

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