Boroecia borealis (Sars, 1866)

No. of individuals recorded – 427

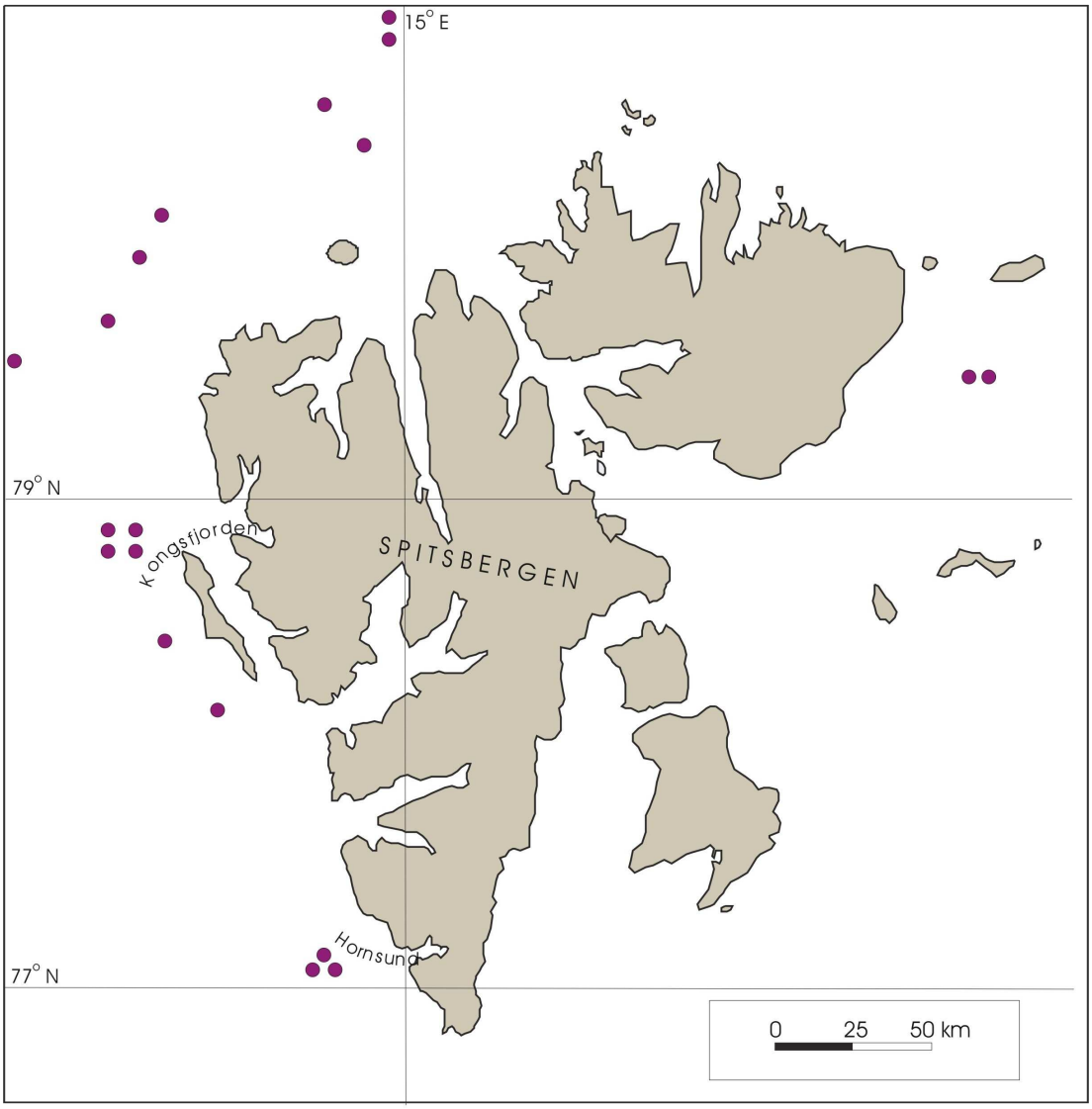
Boroecia borealis (♀: 2.30-2.72 mm, ♂: 2.02-2.50 mm) was also originally described by G.O. Sars (1866) from off the Lofoten Islands (Norwegian Sea). It is abundant and often dominant in the North Atlantic at boreo-arctic latitudes (Angel & Fashman 1975; Poulsen 1977; Bashmanov & Chavtur, 2008). The previous confusions of this species with *B. maxima* make difficult the comparisons of our data with many of the earlier studies (Haberströh 1985; Richter 1994). The reasons for this confusion are in retrospect difficult to comprehend. There are considerable differences in size between the two species and the presence of sharply angled shoulder vaults in *B. borealis* distinguishes both adults and juveniles instars. Several investigations in North Atlantic, Greenland Sea and Nansen Basin (Wiborg 1955; Habeström 1985; Mumm 1991 & 1993; Richter 1994) have reported *B. borealis* as playing a dominant role in the halocyprid assemblages contributing 60-80% of all the identified pelagic Ostracoda and up to 4-5% of the total mesozooplankton population. At two stations at 60°N 20°W and 53°N 20°W Angel and Fasham (1975) reported that *B. borealis* was the dominant species at mesopelagic depths. As reported by Bashmanov and Chavtur (2008; 2009) the species is mainly limited to the boreal Atlantic, but there are several records of its extending as far south as 30°N. It also occurs in sparse numbers in the deep water regions of the Arctic, particularly to the north of the Bering Strait and the Canadian Arctic coastline. There are a number of problems that need to be sorted out with the genus *Boroecia*. Poulsen (1973), who proposed the genus to accommodate some of the species that had been classified by Müller in his 'Mollicia' groups of species in his all embracing concept of *Conchoecia*, failed to designate a type species and gave a very inadequate definition of the genus. Nowadays, few attempts to revise *Boroecia* genus have been carried out (Chavtur, unpubl. data, Angel & Blachowiak-Samolyk in prep.) but unfortunately they have not been finished yet.

Boroecia borealis is often a component of very simple species-poor halocyprid communities (e.g. in the Labrador Sea and off northern Norway waters) and so the very early stage juveniles, which show very few characters whereby they can be identified, can be attributed with reasonable certainty.

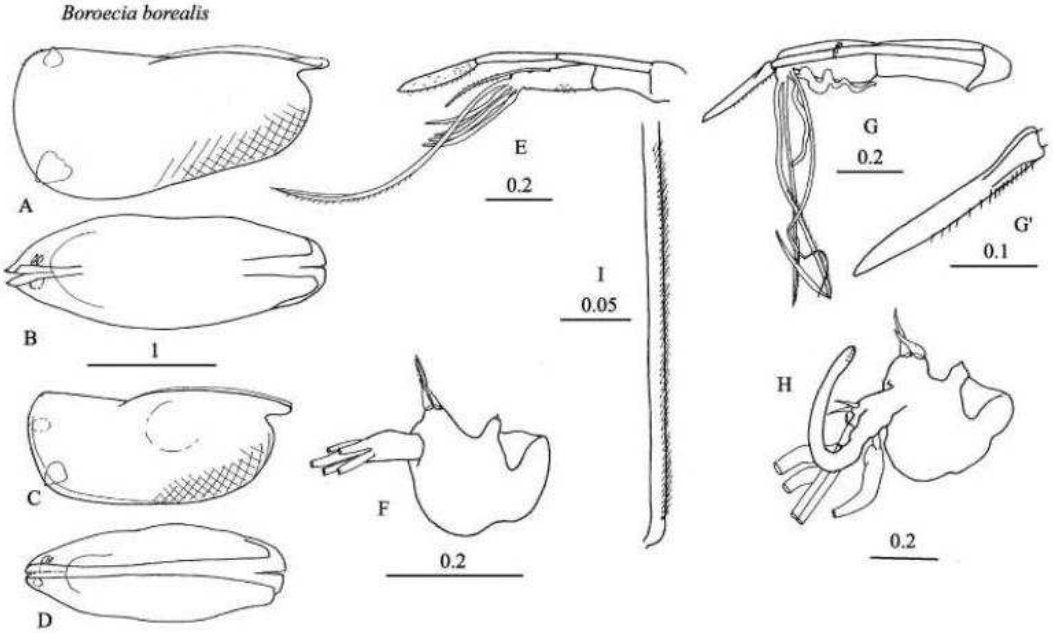
Maximum densities of *B. borealis* in the water column were noted in the mid-layer around Svalbard, which agrees with previously published data from high latitudes by Bashmanov & Chavtur (2008). However, some authors (e.g. Mumm 1991) have reported a maximum abundance of the species at the shallower depth (between 100m and 200m).

Table with sizes ranges [mm] of all developmental stages of *B. borealis* found in Svalbard waters from the adult (Ad) female and male to the youngest A-6 stage:

Developmental stage	Sizes ranges	
	min	max
Ad female	2.30	3.00
Ad male	2.00	2.50
A-1	1.50	1.95
A-2	0.97	1.35
A-3	0.66	0.90
A-4	0.49	0.64
A-5	0.31	0.49
A-6	0.29	0.31



Boroecia borealis distribution



Sketches of the carapace shapes of adult females (A, B) and males (C, D); the first antennae and frontal organs and the endopodite of the left second antennae of females (E, F) and of males (G and H) and the details of the armature of the male first antenna setae (I).

Carapace shape of *Boroecia borealis* female:

Frontal organ of *Boroecia borealis* female:

Carapace shape of *Boroecia borealis* male:

Frontal organ of *Boroecia borealis* male: