

Fatty acids composition of macroalgae from Bulgarian Black Sea coast

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Abstract Lipids and fatty acids (FA) composition of three Black Sea macroalgae *Cladophora vagabunda*, *Ceramium rubrum* and *Cystoseira barbata* were studied. Fatty acids composition was analyzed by GC/MS. Total lipids content varied widely among the species and ranged between 0.66 and 0.98 g per 100 g fresh weight. Generally, saturated fatty acids were major components (62–71%), with 16:0 as the most abundant saturate (41–57%). Total polyunsaturated FAs and monounsaturated FAs ranged from 28% to 38%. The green alga *Cladophora vagabunda* showed higher C18 PUFAs contents than did C20 PUFAs while for red alga *Ceramium rubrum* the trend was opposite. *Cystoseira barbata* belonging to the group of brown algae showed similar amounts of C18 and C20 PUFAs contents. *Cladophora vagabunda* was rich in linoleic acid and *Ceramium rubrum* in arachidonic acid (AA) while *Cystoseira barbata* was rich in both linoleic acid and eicosopentaenoic acid. All of the studied species had a nutritionally beneficial n6/n3 ratio (1.24–2.84:1).

Keywords: Black Sea algae, fatty acids, GC/MS
