The sterol composition of *Hymeniacidon sanguinea* and *Halichondria panicea* from the Black Sea was investigated. Both sponges contain similar mixtures of stanols and of dietary Δ^5-sterols. Main sterols appeared to be C_{27}-sterols, which could be connected with a common diet for the both sponges. Saturated short side chain sterols have been found in *Hymeniacidon sanguinea*. Three of them were novel for sponges. A possibility for the transformation of some dietary sterols into stanols is discussed.