

SPECIFIC PRODUCTION OF MACROBENTHIC ANIMALS AND THEIR LONGEVITY

Zaika V.E.

Institute of Biology of South Seas, Ukrainian Academy of Sciences,
Sevastopol, USSR

Data about different groups of hydrobionts (Zaika, 1972) showed the existence of reverse relation between specific production of population ($C = P/B$, day⁻¹) and longevity of animals (τ_m).

Accumulation of new facts allow to discuss quantitative dependence between specific production and longevity for some groups. The following kind of dependence was revealed in two macrobenthic groups :

$$\begin{array}{ll} \text{Amphipoda} & C = 1.22 \tau_m^{-1.76} \quad (C - \text{day}^{-1}, \tau_m - \text{month}) \\ \text{Mollusca} & C = 0.022 \tau_m^{-1.44} \quad (C - \text{day}^{-1}, \tau_m - \text{years}) \end{array}$$

Corresponding lines slightly differ by slope, but in the field of real τ_m values they are arranged relatively close (Fig.).

These equations allow to estimate specific production of representatives of these macrobenthic groups in different communities by their longevity.

Expected C values are given below :

τ_m (years)		0.5	1	2	3	4
C (days ⁻¹)	Amphipoda	0.0520	0.0150	0.0045	0.0022	0.0013
	Mollusca	0.0597	0.0220	0.0081	0.0045	0.0030

