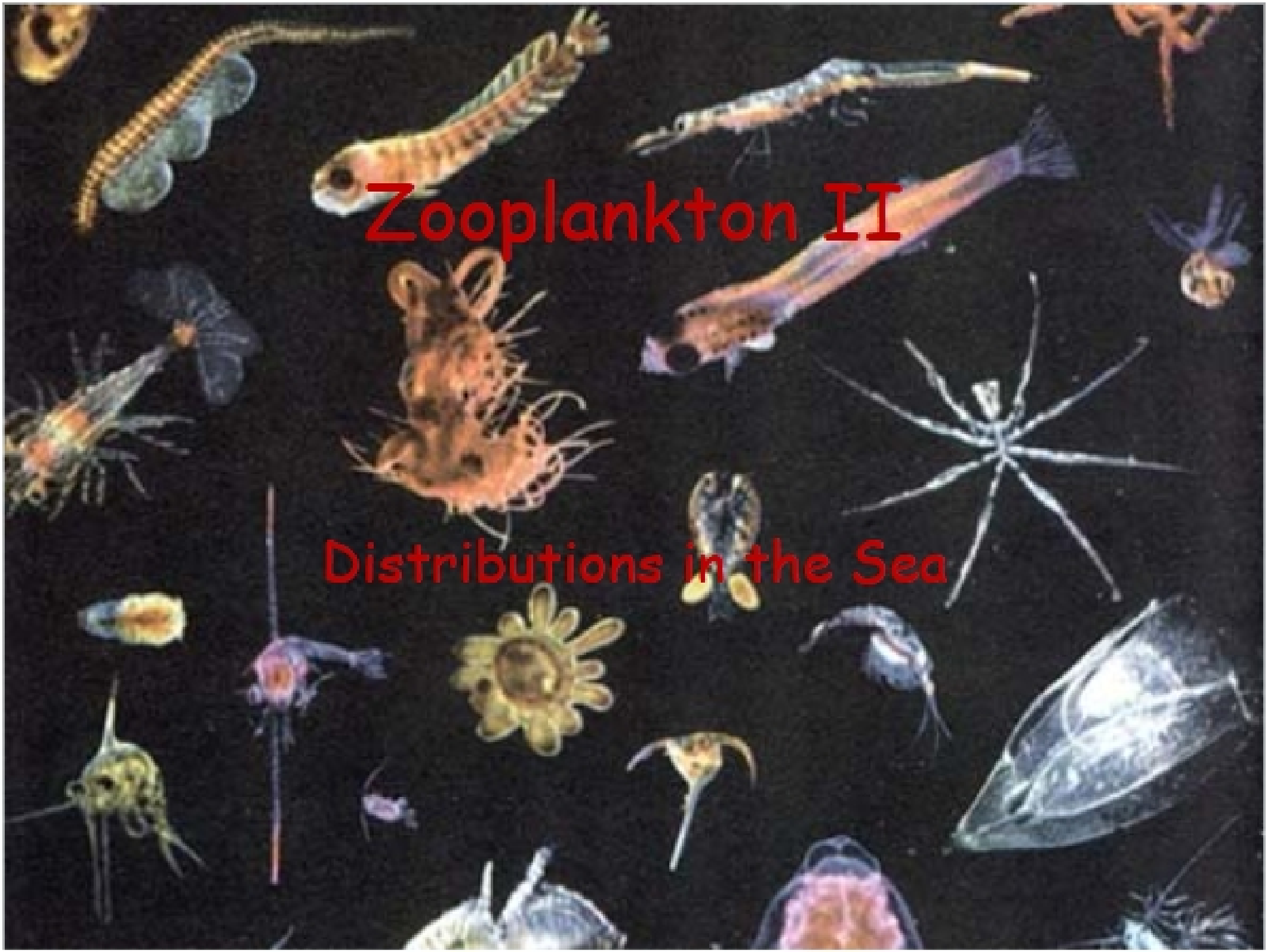
Zooplankton II
Distributions in the Sea

Table 4.3 Approximate spatial and temporal scales of some important processes that cause patchy distribution of zooplankton.

Spatial length scale (km)	Physical processes	Biological processes	Persistence time scale (days)
1000+	Gyres (e.g. Sargasso Sea); continental upwelling (e.g. Peru Current); water mass boundaries (e.g. Antarctic Convergence		1000+
100	Warm and cold core rings; tidal fronts; seasonal coastal upwelling	Seasonal growth (e.g. spring blooms); differential growth between phyto- and zooplankton	100
		Lunar cycles (e.g. fish spawning)	
10	Turbulence (e.g. estuarine mixing; island wake effects)	Reproductive cycles	10
		Grazing/predation	
1		Diel events (e.g. vertical migration)	1
0.1		Physiological adaptation (e.g. buoyancy; light adaptation)	0.1
0.01	Langmuir circulation; wave action	Behavioural adaptation (feeding swarms)	0.01

Seasonal Cycles

phytoplankton

copepods