

Taxa	Habitat	Life mode	Mode of nutrition	Common remaining parts	Morphological types and features	Representative fossil name (example)	Reference
Cyanobacteria	freshwater, blackishwater, marine		photosynthetic	heterocyst akinete sheath	elongatedly rectangular, ellipsoidal, fusiform, subspherical with tail		van Geel 2001
Dinophyta	abundantly marine (commonly blackish, freshwater)	mainly planktonic	photosynthetic, heterotrophic (bacteria, diatoms, other phototrophic dinoflagellates, ciliates, nonphotoflagellates, colorless deterial particles) mixotrophic	resting cyst	sperical to subspherical type ellipsoidal type peridinioid type ovoidal type with various surface ornamentations transverse and longitudinal furrows archeopyle	<i>Spiniferites</i> <i>Brigantidinium</i>	Wall and Dale 1968 Jacobson and Anderson 1986 Hansen 1991
Acritarch	mainly marine (commonly brackish water, freshwater)	probably planktonic autotrophic, heterotrophic, mixotrophic (?)	mainly photosynthetic, heterotrophic (?) mixotrophic (?)	resting cell?	sperical to subspherical type ellipsoidal type peridinioid type ovoidal type ornamented with various appendages and openings	<i>Baltisphaeridium</i> <i>Michrystidium</i>	Downie et al. 1963
Chlorophyta	mainly freshwater, blackishwater, marine	planktonic, benthic	photosynthetic	resting cell		<i>Oedogoniaceae (Oedogonium)</i> <i>Botryococcaceae (Botryococcus)</i> <i>Hydrodictyaceae (Pediastrum)</i> <i>Scenedesmacaceae (Scenedesmus)</i>	Sumilovskikh et al. 2021
Charophyta	mainly freshwater, blackishwater, marine	planktonic, benthic	photosynthetic	zygospore aplanospore	spherical, ovoidal, elongatedly ovoidal, square, dome-shaped	<i>Zygnemataceae (Spirogyra)</i> <i>Desmidiaceae (Cosmarium)</i> <i>Ovoidites</i>	van Geel 2001
Prasinophyta	mainly marine	planktonic	photosynthetic	resting phycoma	sperical to subspherical type with or without fenestrate walls and membranous surface ornaments	<i>Tasmanites</i> , <i>Cymatosphaera</i> <i>Pleurozonaria</i> , <i>Pterosperma</i> <i>Pterospermella</i>	Wall 1962 Park et al. 1978
Eugranophyta	mainly freshwater	planktonic	photosynthetic	loricate		<i>Trachelomonas</i>	Sumilovskikh et al. 2019
Ciliophora	marine, freshwater, blackishwater	planktonic	heterotrophic (bacteria, diatoms, dinoflagellates, microflagellates (chlorophytes, chrysophytes, pelagophytes, prasiophytes, pyrenomonadaceae), raphidophytes, other ciliates, small organic particles)	lorica	circular cylindrical inverted frustum	<i>Strombidium</i> <i>Hexasterias</i> <i>Halodinium</i> <i>Radiosperma</i>	Dolan et al. 2013 Reid and John 1978 Gurdebeke et al. 2018 Taniguchi 1975
				resting cyst	sperical type elliptical type spindle type disk-shaped type		
Amoebozoa	freshwater to blackishwater	benthic	heterotrophic (organic detritus?)	organic shell	discoidal, cup-shaped and elongated ellipsoidal with simple opening.		Meisterfeld 2002
Foraminifera (microforaminiferal linings)	marine, blackishwater	benthic	heterotrophic (bacteria, pennate diatoms, microalgae, other protozoans, and dead organic material)	organic inner lining	single chamber type uniserial type biserial type coiled type compound type		Stancliffe 1989 Kitazato 1981 Topping et al. 2006 Armstrong and Braseir 2007
Fungi	freshwater, blackishwater, marine	synbiont	heterotrophic		spore, fruiting bodies, hyphae	chlamydospore conidophore	Travers 2007 van Geel 2001
Crustaceae	marine, freshwater, blackishwater	planktonic heterotrophic	heterotrophic (diatoms, dinoflagellates, ciliates, fecal pellets, organic detritus)	exoskeleton	intercoxal plate tail sternite appendage, etc		van Wavern 1993
				egg envelope	discoid type folded discoid type double saucer shapd type fissured sphere type hemisphere type ellise type fusiform type double fusiform type	<i>Cobricosphaeridium</i>	van Wavern 1993 McMinn et al. 1992 Sherr and Sherr 1988 Uye and Takamatsu 1990
Ostracod	marine, freshwater, blackishwater	benthic	heterotrophic	mandibles and carapace linings			Mudie et al. 2021
Polychaeta	freshwater, blackishwater, marine	benthic	heterotrophic	mouth-lining parts scolecodont			Travers 2007 Mudie et al. 2021
Turbellaria	freswater Freshwater, blackishwater, marine	benthic	heterotrophic	egg capsule	stalk Group ellipsoidal type cup-shaped type spherical type non-Stalk Group ellipsoidal/cup-shaped type sp. spherical type	<i>Palaeocystomopsis</i>	Mudie et al. 2021 Matsuoka and Ando 2021