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The role of mucus in bivalve feeding—A reply to the comment by Jørgensen¹

Jørgensen (1993) contends that the binding of particles in mucus is not a crucial part of the normal feeding mechanism in bivalves, as we claim (Ward et al. 1993). However, our endoscopic studies have clearly shown that in the mussel *Mytilus edulis*, mucus-string transport in the ventral groove is the predominant means by which particles are carried to the labial palps (heavily ciliated, feeding structures inserted around the buccal region). In other species, such as the oyster *Crassostrea virginica*, particles are also transported along the ventral groove in a mucus string. These strings are carried onto the palps where the viscosity is reduced and particles are dispersed (Ward et al. unpubl.), possibly by mechanical action of the palps (Newell and Jordan 1983). In the scallop *Placopecten magellanicus*, mucus accompanies suspended particles transported in the dorsal tracts (Beninger et al. 1992). Furthermore, recent studies have verified that mucus is present in the buccal region and esophagus of five species of suspension-feeding bivalves (Beninger et al. 1991). The fact that particles are freely suspended does not necessarily mean that mucus is absent. For example, in the scallop and the oyster, transport along the dorsal tracts is by hydrodynamic action, but the medium is a mucus slurry (Beninger et al. 1992; Ward et al. unpubl.). We agree with Jørgensen that the study of stomach contents of bivalves is an important area for research; we have begun such analysis with the endoscope (Ward et al. unpubl.). Video recordings of endoscopic observations are available on request by sending a blank video tape (NTSC—VHS or 8 mm) and return postage to J.E.W.

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