Table 3. L_p *values* ($m\ s^{-1}\ Pa^{-1}$) *for various micro-algae*

Organism	L_p ($m\ s^{-1}\ Pa^{-1}$)	Reference
Dunaliella (marine euryhaline) (Chlorophyceae)	$10{\cdot}0 \times 10^{-15}$	Gimmler, Schirling & Tabler (1976)
Vacuolaria (freshwater) (Chloromonadophyceae)	$8{\cdot}4 \times 10^{-15}$	Schnepf & Koch (1966)
Poteriochromas (freshwater) (Chrysophyceae)	$9{\cdot}0 \times 10^{-15}$	Schobert, Untoer & Kauss (1972); Kauss (1974)
Euglena (freshwater) (Euglenophyceae)	$5{\cdot}6 \times 10^{-15}$	Buetow (1968)
Chlamydomonas (freshwater) (Chlorophyceae)	$1{\cdot}7 \times 10^{-15}$	Guillard (1960); Bold & Wynne (1977)

L_p calculated as $J_v/\Delta\pi$ (J_v in $m^3\ m^{-2}\ s^{-1}$; $\Delta\pi$ in Pa): (cf. Milburn, 1974; House, 1974).

For *Dunaliella* and *Poteriochromonas* J_v was measured as the initial rate of volume exchange/cell surface area upon subjecting cells to a change in external osmolarity; the cells were originally isosmotic with the medium, so the change in external osmolarity was equivalent to $\Delta\pi$ in the equation. For the other algae, J_v was estimated from the rate of water removal by contractile vacuoles (based on maximum size of contractile vacuole(s) and frequency of contraction) and the cell surface area, assuming a constant cell volume, i.e. water influx across the plasmalemma equals water efflux via contractile vacuoles. The $\Delta\pi$ was assumed to be 0·15 MPa for *Chlamydomonas* (Guillard, 1960), and 0·2 MPa for *Vacuolaria* and *Euglena*.

Bold, H. C. & Wynne, M. J. (1977). *Introduction to the Algae : Structure and Reproduction*, pp. xiv + 706. Prentice-Hall, Englewood Cliffs, New Jersey.

Buetow, D.E. (1968). Morphology and ultrastructure of *Euglena*. In: *The Biology of Euglena* (Ed. by D. E. Buetow), vol. 1, pp. 109–184. Academic Press, New York.

Gimmler, H., Schirling, R. & Tobler, U. (1977). Cation permeability of the plasmalemma of the halotolerant alga *Dunaliella parva*. I. Cation induced osmotic volume changes. *Zeitschrift für Pflanzen-Physiologie*, **83**, 145–158.

Guillard, R. R. L. (1960). A mutant of *Chlamydomonas moewusii* lacking contractile vacuoles. *Journal of Protozoology*, **7**, 262–268.

Kauss, H. (1974). Osmoregulation in *Ochromonas*. In: *Membrane Transport in Plants* (Ed. by U. Zimmermann & J. Dainty), pp. 90–94, Springer-Verlag, Berlin.

Schnepf, F. E. & Koch, W. (1966). Uber die Enstelhung der pulsierene Vacuolen von *Vacuolaria virescens* (Chloromonadophyceae) aus dem Golgi-apparat. *Archiv für Mikrobiologie*, **54**, 229–236.

Schobert, B., Untner, E. & Kauss, H. (1972). Isofloridosid und die Osmoregulation bei *Ochromonas malhamensis*. *Zeitschrift für PflanzenPhysiologie*, **67**, 385–398.