



FIGURE 8.11. Primary and secondary plastids. (A) Plastids in various eukaryotes. Cyanobacteria (*top left*; *Eucapsis* sp.) probably gave rise to plastids of green algae (*top right*; filaments of *Ulothrix fimbriata*), red algae (*bottom left*; *Porphyridium* sp.), and glaucophytes (*bottom right*; *Glaucocystis* sp.) through a single symbiotic event that took place more than 1.2 billion years ago. (B) Model of primary and secondary plastids. OM, outer membrane; IM, inner membrane. (C) Two examples of eukaryotes with plastids formed by secondary endosymbiosis.

8.11B, redrawn from Archibald J.M. et al., *Trends Genet.* **18**: 577–584, © 2002 Elsevier; 8.11C, redrawn from Gilson P.R., *Genome Biol.* **2**: 1022.1–1022.5, © 2001 Bio-Med Central Ltd.