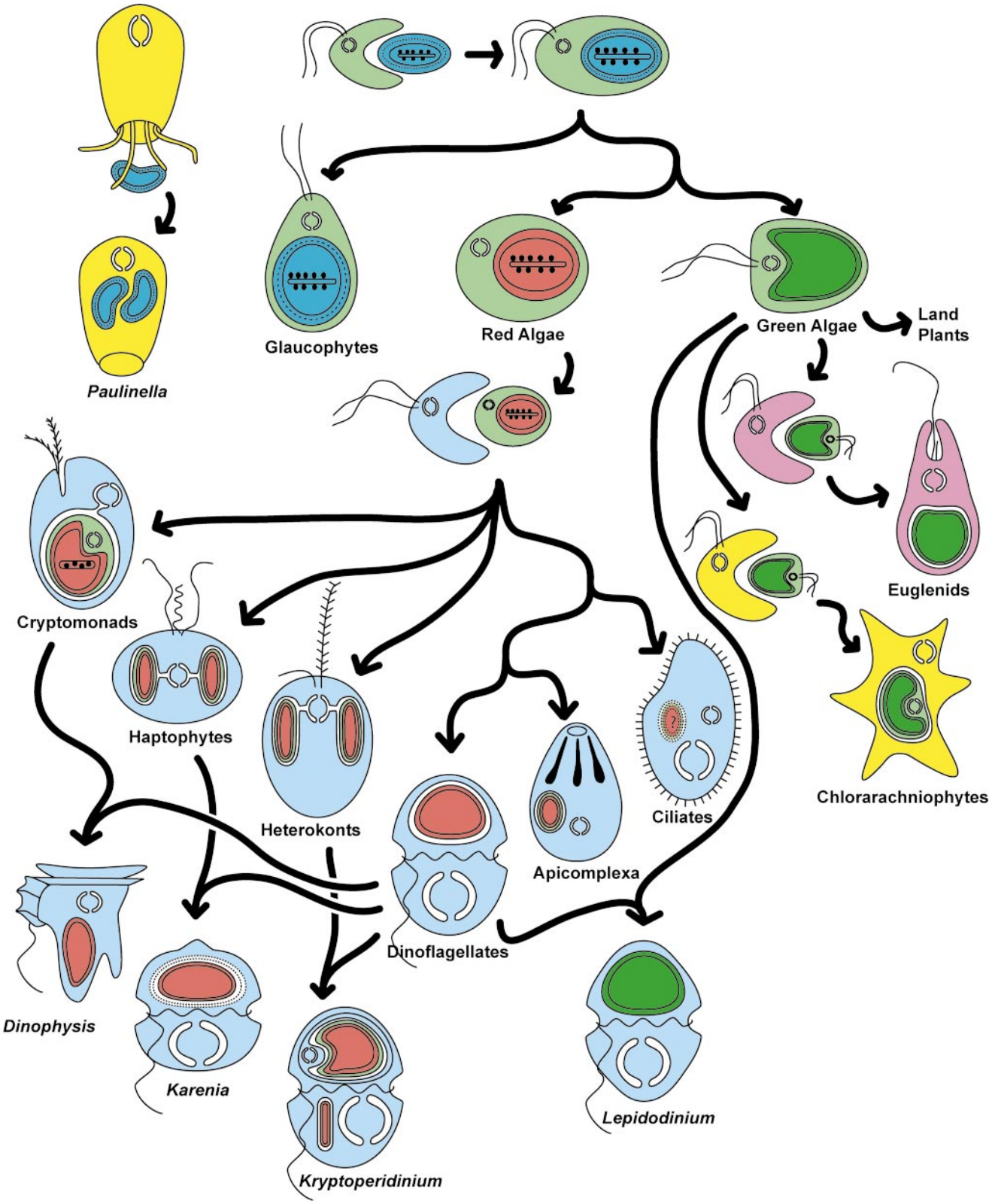

Fig. 3. Endosymbiosis in the history of plastid evolution. All primary (top), secondary (middle), serial secondary and tertiary (bottom) endosymbiotic associations mentioned in the text are represented here. Cells are color-coded so that the cytoplasmic color matches the color of the supergroup in Fig. 1 to which that eukaryote belongs (Cercozoa are yellow, plants are green, excavates are purple, and chromalveolates are blue). Plastids are color-coded to distinguish the three primary plastid lineages (cyanobacteria and glaucophyte plastids are both blue-green, red algal plastids are red, and green algal plastids are dark green). Primary endosymbiosis: At the top left, the cercozoan euglyphid amoeba *Paulinella* takes up a *Synechococcus*-like cyanobacterium and retains two apparently permanent endosymbionts, losing its feeding pseudopods. This may represent an independent primary endosymbiosis. At the top center, a cyano-