

Abstract: Phylum Euglenozoa consists of four groups – Euglenoidea, Kinetoplastea, Symbiontida and Diplonemea. Phototrophic euglenids, which constitute a clade, possess green plastid acquired via secondary endosymbiosis from green alga related to recent genus *Pyramimonas*. According to generally accepted plastid-late hypothesis, the endosymbiosis took place after split between phototrophic euglenids and all other euglenozoans. Endosymbiotic event is always associated with gene transfer from endosymbiont to nuclei of host. Even if the endosymbiont is completely lost we should be able to observe enrichment of the host genome with the genes derived from endosymbiont. Some recent phylogenetic analyses uncovered genes related to green algae in trypanosomas (Kinetoplastea: Trypanosomatida). Based on this observation, authors postulated a hypothesis that the plastid was present already in common ancestor of kinetoplastids and euglenids and was lost in kinetoplastids and some euglenids including osmotrophic *Rhabdomonas costata*. During analysis of transcriptome of *R. costata* we found 63 genes, which could originated from green (24 genes) or other (49 genes) algae. In phylogenetic trees only one was robustly related to green and four were robustly related to other algae. Since the number of genes related to green algae is not higher than number of genes sister to other algae, we do not observed significant enrichment by green algal genes, and so the plastid-late hypothesis is not rejected.